

MONITORING	BALEE-D0104-1	_BirdsWinter - Ab	undance of winte	ring birds	
PROGRAMME Introduction/overview of programme	Estonian coastal data to monitor programme is re D1C3 and D1C4, Monitoring is co and off-shore ar sectors and fligh (data collection) International. Do monitoring data database for ass JWGBird Group. The programme monitoring of th The programme indicative list:	and off-shore are ing strategy "SD1. elated to GES Desi as well as GES Desi nducted yearly w eas) every five ye it counting in off- is regionally coor ata are annually r base KESE (by 1 N essment purpose was updated and ie abundance of v corresponds to t Mobile species –	eas during the wir 1 – Biological dive criptor D1, Criterio escriptor D4, Criterio ith a goal to cover ars. Visual counting shore areas are co rdinated by HELCO eported to the na March). Data coller s is coordinated b I modified since 2 vintering waterbir he following moni- distribution, abur	lance of waterbirds in the netering season. It provides ersity – Birds". The on D1C2 and potentially ria D4C1 and D4C2. If the whole area (coastal ng from land in defined onducted. The programme DM and Wetlands tional environmental ction into the regional by the HELCOM/ICES 014 by adding the rds in the off-shore area. itoring programmes in the indance and/or biomass;	
Purpose of programme	Effectiveness of	 population chara measures, 	acteristics.		
	Environmental s	tate and impacts			
Other EU or international		gramme targeting	at national legisla	ation,	
policies to which programme contributes	Birds Directive, Habitats Directiv	/e			
Monitoring details		Visual counting from land in defined sectors and flight counting in off-shore			
	monitoring in the counted. Age is weather (wind so observations. In order to coun conducted every birds by species is fixed from coun conducted in the	e coastal area. As also fixed for swa trength, visibility, t the wintering w / 5 years covering per covered cour inting transects w e Estonian marine	a rule, all coastal ns. Several other ice cover %) are a aterbirds in off-sh the entire Estoni iting section durir yith a defined wid	been selected for regular (<2 km) waterbirds are parameters such as also recorded during the nore areas, the flights are an sea area. The number of a certain period of time th. The monitoring is being depth line. All species are re assessed.	
Ecosystem components,	Surface-feeding				
anthropogenic pressures and activities monitored	Elements monitored	Larus ridibundus		a abundance	
and activities monitored	monitored	GES criteria addressed	D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored	Abundance (number of individuals)	
		Larus argentatu			
		GES criteria	D1C2 Population		
		addressed	Parameters monitored	Abundance (number of individuals)	





		D1C3 Population	demographic
		characteristics	A 11 A 11 A
		Parameters monitored	Age distribution
		D1C4 Population pattern	distributional range and
		Parameters	Distribution (pattern),
		monitored	Distribution (range), Distribution (spatial)
	Larus canus		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters monitored	Abundance (number of individuals)
		D1C3 Population	
		characteristics	
		Parameters	Age distribution
		monitored	-
		D1C4 Population pattern	distributional range and
		Parameters	Distribution (pattern),
		monitored	Distribution (range), Distribution (spatial)
	Hydrocoloeus m	inutus	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population characteristics	demographic
		Parameters monitored	Age distribution
		D1C4 Population	distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
	1		Distribution (spatial)
	Larus marinus		alawadawaa
	GES criteria	D1C2 Population	
	addressed	Parameters monitored	Abundance (number of individuals)
		D1C3 Population	,
		characteristics	uemographic
		Parameters	Age distribution
		monitored	
		D1C4 Population pattern	distributional range and
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
Pelagic-feeding b			
Elements	Gavia stellata		
monitored	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	aemographic
		characteristics	Ago distribution
		Parameters	Age distribution
		monitored	





	-	distributional range and
	pattern	Distribution (asthema)
	Parameters	Distribution (pattern),
	monitored	Distribution (range),
		Distribution (spatial)
Mergellus albellu GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
uuuresseu	monitored	individuals)
	D1C3 Population	,
	characteristics	actioBraphic
	Parameters	Age distribution
	monitored	0
		distributional range and
	pattern	0
	Parameters	Distribution (pattern),
	monitored	Distribution (range),
		Distribution (spatial)
Mergus mergans	ser	· · · /
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	demographic
	characteristics	
	Parameters	Age distribution
	monitored	
	D1C4 Population	distributional range and
	pattern	
	Parameters	Distribution (pattern),
	monitored	Distribution (range),
N		Distribution (spatial)
Mergus serrator GES criteria	D1C2 Dopulation	ahundanca
addressed	D1C2 Population Parameters	Abundance (number of
audresseu	monitored	individuals)
	D1C3 Population	,
		uemographic
	charactoristics	
	characteristics Parameters	Age distribution
	Parameters	Age distribution
	Parameters monitored	
	Parameters monitored D1C4 Population	Age distribution distributional range and
	Parameters monitored D1C4 Population pattern	distributional range and
	Parameters monitored D1C4 Population	distributional range and Distribution (pattern),
	Parameters monitored D1C4 Population pattern Parameters	distributional range and
Podiceps cristatu	Parameters monitored D1C4 Population pattern Parameters monitored	distributional range and Distribution (pattern), Distribution (range),
Podiceps cristatu GES criteria	Parameters monitored D1C4 Population pattern Parameters monitored	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial)
-	Parameters monitored D1C4 Population pattern Parameters monitored	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial)
GES criteria	Parameters monitored D1C4 Population pattern Parameters monitored JS D1C2 Population	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance
GES criteria	Parameters monitored D1C4 Population pattern Parameters monitored JS D1C2 Population Parameters	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals)
GES criteria	Parameters monitored D1C4 Population pattern Parameters monitored JS D1C2 Population Parameters monitored	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals)
GES criteria	Parameters monitored D1C4 Population pattern Parameters monitored JS D1C2 Population Parameters monitored D1C3 Population	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals)
GES criteria	Parameters monitored D1C4 Population pattern Parameters monitored J1C2 Population Parameters monitored D1C3 Population characteristics	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic
GES criteria	Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic
GES criteria	Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution
GES criteria	Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution
GES criteria	Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern	distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and





	Phalacrocorax ca	irbo	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	,
		characteristics	5
		Parameters	Age distribution
		monitored	
			distributional range and
		pattern	distributional range and
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
	Alca torda		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	,
		characteristics	-U-F -
		Parameters	Age distribution
		monitored	
			distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
	Gavia arctica		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	,
		characteristics	
		Parameters	Age distribution
		monitored	
			distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
Benthic-feeding	birds		
Elements	Clangula hyemal	is	
monitored	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution
		monitored	
		D1C4 Population	distributional range and
		pattern	0
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
	Aythya fuligula		- \-[
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
	addressed	Parameters monitored	Abundance (number of individuals)





	D1C3 Population characteristics	demographic
	characteristics	
	endracteristics	
	Parameters	Age distribution
	monitored	
	D1C4 Population	distributional range and
	pattern	
	Parameters	Distribution (pattern),
	monitored	Distribution (range),
		Distribution (spatial)
Aythya marila		
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	demographic
	characteristics	
	Parameters	Age distribution
	monitored	-
	D1C4 Population	distributional range and
	pattern	
	Parameters	Distribution (pattern),
	monitored	Distribution (range),
	monitored	Distribution (spatial)
Bucephala clang	ula	Sistingation (Spatial)
GES criteria	D1C2 Population	ahundance
addressed	Parameters	Abundance (number of
addressed	monitored	individuals)
	D1C3 Population characteristics	uemographic
		Ago distribution
	Parameters	Age distribution
	monitored	
	-	distributional range and
	pattern Parameters	
	Parameters	
		Distribution (pattern),
	monitored	Distribution (range),
Malastit		
Melanitta fusca	monitored	Distribution (range), Distribution (spatial)
GES criteria	monitored D1C2 Population	Distribution (range), Distribution (spatial) abundance
	monitored D1C2 Population Parameters	Distribution (range), Distribution (spatial) abundance Abundance (number of
GES criteria	monitored D1C2 Population Parameters monitored	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals)
GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals)
GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic
GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals)
GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution
GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic
GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and
GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution
GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and
GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and Distribution (pattern),
GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and Distribution (pattern), Distribution (range),
GES criteria addressed	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and Distribution (pattern), Distribution (range), Distribution (spatial)
GES criteria addressed Melanitta nigra	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and Distribution (pattern), Distribution (range), Distribution (spatial)
GES criteria addressed Melanitta nigra GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance
GES criteria addressed Melanitta nigra GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals)
GES criteria addressed Melanitta nigra GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored D1C3 Population	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals)
GES criteria addressed Melanitta nigra GES criteria	monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored	Distribution (range), Distribution (spatial) abundance Abundance (number of individuals) demographic Age distribution distributional range and Distribution (pattern), Distribution (range), Distribution (spatial) abundance Abundance (number of individuals)





		D1C4 Population pattern	n distributional range and
		Parameters monitored	Distribution (pattern), Distribution (range),
		monitoreu	Distribution (spatial)
	Polysticta stelle	eri	
	GES criteria	D1C2 Population	n abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population characteristics	n demographic
		Parameters	Age distribution
		monitored	Age distribution
			n distributional range and
		pattern	Ū
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
	Somateria mol		abundaraa
	GES criteria addressed	D1C2 Population	
	auuresseu	Parameters monitored	Abundance (number of individuals)
		D1C3 Population	,
		characteristics	
		Parameters	Age distribution
		monitored	
			n distributional range and
		pattern	
		Parameters monitored	Distribution (pattern), Distribution (range),
		monitoreu	Distribution (spatial)
Grazing birds			Distribution (opution)
Elements	Cygnus columb	ianus	
monitored	GES criteria	D1C2 Population	n abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	n demographic
		characteristics Parameters	Age distribution
		monitored	
			n distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
	0		Distribution (spatial)
	Cygnus cygnus	D1C2 Dopulation	abundanco
	GES criteria addressed	D1C2 Population	Abundance (number of
	uuuresseu	monitored	individuals)
		D1C3 Population	
		characteristics	U 1 -
		Parameters	Age distribution
		monitored	
			n distributional range and
		pattern	





*				
			Parameters	Distribution (pattern),
			monitored	Distribution (range),
				Distribution (spatial)
		Cygnus olor		
		GES criteria	D1C2 Population	n abundance
		addressed	Parameters	Abundance (number of
			monitored	individuals)
			D1C3 Population	
			characteristics	ruemographie
			Parameters	Age distribution
			monitored	Age distribution
				n distributional range and
				i distributional range and
			pattern	Distribution (nottons)
			Parameters	Distribution (pattern),
			monitored	Distribution (range),
				Distribution (spatial)
		Fulica atra		
		GES criteria	D1C2 Population	
		addressed	Parameters	Abundance (number of
			monitored	individuals)
			D1C3 Population	n demographic
			characteristics	
			Parameters	Age distribution
			monitored	
			D1C4 Population	n distributional range and
			pattern	5
			Parameters	Distribution (pattern),
			monitored	Distribution (range),
				Distribution (spatial)
		Anas platyrhyn	chos	Distribution (spatial)
		GES criteria	D1C2 Population	n abundance
		addressed	Parameters	Abundance (number of
		addressed	monitored	individuals)
			D1C3 Population	h demographic
			characteristics	
			Parameters	Age distribution
			monitored	
				n distributional range and
			pattern	
			Parameters	Distribution (pattern),
			monitored	Distribution (range),
				Distribution (spatial)
Spatial zones monitored	Coastal waters (WFD),		
	Territorial water	s,		
	EEZ (or similar)			
Start(and end) date of the	1967-9999			
programme				
Frequency of the	Yearly			
monitoring				
Type of monitoring	Visual observation	on,		
	Remote flight im			
Data management and	_		e national environ	mental monitoring
access				ne regional database for
				M/ICES JWGBird Group.
Indicators to which the			iterbirds in the win	
programme contributes				





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	Estonian Ornithological Society, eoy@eoy.ee;
	Estonian University of Life Sciences, Institute of Agricultural and
	Environmental Sciences, Leho Luigujõe, leho.luigujoe@emu.ee.
References	The monitoring programme is approved by the minister of the environment and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).



MONITORING PROGRAMME	BALEE-D0104-2_BirdsBreeding - Abundance of water birds in the breeding season				
Introduction/overview of	The aim of the programme is to monitor the abundance of waterbirds in				
programme	Estonian coastal areas during the breeding season. It provides data to				
programme	monitoring strategy "SD1.1 – Biological diversity – Birds" and "SD8 –				
	Contaminants". The programme is related to GES Descriptor D1, Criterion				
	D1C2 and potentially D1C3 and D1C4, as well as GES Descriptor D4, Criteria				
	D4C2 and D4C4 and Descriptor D8, Criterion D8C2. Monitoring is conducted				
	yearly on small islands (island groups) where the full number of nests and				
	species are registered. White-tailed eagle breeding success is monitored to				
	assess the impact of contaminants. The monitoring area of the white-tailed				
	eagle relevant to marine status assessment covers the area up to 20 km				
	landward from the seashore. The programme data collection is regionally				
	coordinated via HELCOM. Data are annually reported to the national				
	environmental monitoring database KESE (annually by 1 March).				
	The programme corresponds to following monitoring programmes in the				
	indicative list: Mobile species – distribution, abundance and/or biomass;				
	Mobile species – health status; Mobile species – population characteristics.				
Purpose of programme	Environmental state and impacts,				
	Pressures in the marine environment				
Other EU or international	Monitoring programme targeting at national legislation,				
policies to which	Birds Directive,				
programme contributes	Habitats Directive				
Monitoring details	Monitoring is carried out on selected small islands (island groups) and nesting				
	sites of white-tailed eagle (on land up to 20 km from seashore). Breeding				
	pairs, as well as a monitoring-year nest and/or pair or single bird, are used as				
	counting units. All breeding species on the island are registered. The indexes				
	for the assessment of the abundance trend by species are based on whole				
	gathered data from small islands. For assessment of white-tailed eagle				
	productivity their nesting sites are monitored and the number of occupied				
	nests and fledglings are registered. The nests are usually being controlled in				
	late May-early July. The productivity is counted as the mean number of				
	fledglings per occupied nest.				
	The monitoring on small islands is carried out every year on sites with				
	continuous monitoring and where cormorant, Sandwich tern and Caspian tern				
	colonies are monitored continuously. Other sites are monitored in rotation –				
	at least once per 6-year period. The monitoring of white-tailed eagle nesting				
	sites is done in rotation, and all nests are controlled at least once every 3				
	years.				
	Breeding birds monitoring is mainly being conducted in frames of the national				
	monitoring programme. Updated and detailed information on the monitoring				
	plan according to the national monitoring programme is available at				
	https://www.keskkonnaagentuur.ee/eesmargid-tegevused/keskkonnaseire/se				
	ireankeedid.				
Ecosystem components,	Surface-feeding birds				
anthropogenic pressures	Elements Hydroprogne caspia				
and activities monitored	monitored GES criteria D1C2 Population abundance				
	addressed Parameters Abundance (number of				
	monitored individuals)				
	D1C3 Population demographic				
	characteristics				
	Parameters Breeding success				
	monitored				
	D1C4 Population distributional range and				
	pattern				
	Parameters Distribution (pattern),				
	monitored Distribution (range)				





larus argontet		
Larus argentat		
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	
	characteristics	
	Parameters	Brooding success
		Breeding success
	monitored	
	D1C4 Population	distributional range and
	pattern	
	Parameters	Distribution (pattern),
	monitored	Distribution (range)
Larus canus		
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
auuresseu		-
	monitored	individuals)
	D1C3 Population	i demographic
	characteristics	
	Parameters	Breeding success
	monitored	
	D1C4 Population	distributional range and
	pattern	0
	Parameters	Distribution (pattern),
	monitored	Distribution (range)
Lorus fuscus ar		Distribution (range)
Larus fuscus gr		
GES criteria	D1C2 Population	
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	ı demographic
	characteristics	
	Parameters	Breeding success
	monitored	
	D1C4 Population	distributional range and
	pattern	-
	-	Distribution (nattern)
	Parameters	Distribution (pattern),
Larus fuscus in	Parameters monitored	Distribution (pattern), Distribution (range)
Larus fuscus in	Parameters monitored termedius	Distribution (range)
GES criteria	Parameters monitored termedius D1C2 Population	Distribution (range) abundance
	Parameters monitored termedius D1C2 Population Parameters	Distribution (range) abundance Abundance (number of
GES criteria	Parameters monitored termedius D1C2 Population	Distribution (range) abundance
GES criteria	Parameters monitored termedius D1C2 Population Parameters	Distribution (range) abundance Abundance (number of individuals)
GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored	Distribution (range) abundance Abundance (number of individuals)
GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population	Distribution (range) abundance Abundance (number of individuals)
GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics	Distribution (range) abundance Abundance (number of individuals) demographic
GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success
GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population	Distribution (range) abundance Abundance (number of individuals) demographic
GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and
GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern),
GES criteria addressed	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and
GES criteria addressed Larus marinus	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern), Distribution (range)
GES criteria addressed Larus marinus GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern), Distribution (range) abundance
GES criteria addressed Larus marinus	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern), Distribution (range)
GES criteria addressed Larus marinus GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern), Distribution (range) abundance
GES criteria addressed Larus marinus GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern), Distribution (range) abundance Abundance (number of individuals)
GES criteria addressed Larus marinus GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored D1C2 Population Parameters monitored D1C3 Population	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern), Distribution (range) abundance Abundance (number of individuals)
GES criteria addressed Larus marinus GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored D1C2 Population characteristics	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern), Distribution (range) abundance Abundance Abundance (number of individuals) demographic
GES criteria addressed Larus marinus GES criteria	Parameters monitored termedius D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored D1C4 Population pattern Parameters monitored D1C2 Population Parameters monitored D1C2 Population Parameters monitored D1C3 Population	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern), Distribution (range) abundance Abundance (number of individuals)





	D1C4 Population pattern	distributional range and
	Parameters	Distribution (pattern),
	monitored	Distribution (range)
Sterna albifrons	I	
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	,
	characteristics	
	Parameters	Breeding success
	monitored	-
	D1C4 Population	distributional range and
	pattern	
	Parameters	Distribution (pattern),
	monitored	Distribution (range)
Sterna hirundo	I	
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	,
	characteristics	0 1
	Parameters	Breeding success
	monitored	0
		distributional range and
	pattern	0
	Parameters	Distribution (pattern),
	monitored	Distribution (range)
Sterna paradisae	a	· · · · ·
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	demographic
	characteristics	
	Parameters	Breeding success
	monitored	
	D1C4 Population	distributional range and
	pattern	
	Parameters	Distribution (pattern),
	monitored	Distribution (range)
Sterna sandvicer		
GES criteria	D1C2 Population	
	Parameters	Abundance (number of
addressed		
addressed	monitored	individuals)
addressed	D1C3 Population	-
addressed	D1C3 Population characteristics	demographic
addressed	D1C3 Population characteristics Parameters	-
addressed	D1C3 Population characteristics Parameters monitored	demographic Breeding success
addressed	D1C3 Population characteristics Parameters monitored	demographic
addressed	D1C3 Population characteristics Parameters monitored D1C4 Population	demographic Breeding success
addressed	D1C3 Population characteristics Parameters monitored D1C4 Population pattern	demographic Breeding success distributional range and
addressed Haliaeetus albici	D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored	demographic Breeding success distributional range and Distribution (pattern),
	D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored	demographic Breeding success distributional range and Distribution (pattern), Distribution (range)
Haliaeetus albici	D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored lla	demographic Breeding success distributional range and Distribution (pattern), Distribution (range)





		D1C3 Population	demographic
		characteristics	ruemographic
		Parameters	Breeding success,
		monitored	Brood size
			distributional range and
		pattern	a a stributional range and
		Parameters	Distribution (pattern)
		monitored	
	Hydrocoloeus m	inutus	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	i demographic
		characteristics	1
		Parameters	Breeding success
		monitored	
		-	distributional range and
		pattern	Distribution (m. 11
		Parameters	Distribution (pattern),
	Larus ridibundur	monitored	Distribution (range)
	Larus ridibundus GES criteria		abundanco
	addressed	D1C2 Population	Abundance (number of
	audresseu	monitored	individuals)
		D1C3 Population	,
		characteristics	racinographic
		Parameters	Breeding success
		monitored	
			distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range)
Pelagic-feeding			
Elements	Mergus mergan		
monitored	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	i demographic
		characteristics	Ducading autococ
		Parameters	Breeding success
		monitored	distributional range and
		DIC4 Population	i uistributional range and
		nattorn	
		pattern Parameters	Distribution (pattern)
		Parameters	Distribution (pattern), Distribution (range)
	Mergus serrator	Parameters monitored	Distribution (pattern), Distribution (range)
	Mergus serrator GES criteria	Parameters monitored	Distribution (range)
	GES criteria	Parameters monitored D1C2 Populatior	Distribution (range)
		Parameters monitored	Distribution (range) abundance Abundance (number of
	GES criteria	Parameters monitored D1C2 Population Parameters monitored	Distribution (range) abundance Abundance (number of individuals)
	GES criteria	Parameters monitored D1C2 Population Parameters	Distribution (range) abundance Abundance (number of individuals)
	GES criteria	Parameters monitored D1C2 Population Parameters monitored D1C3 Population	Distribution (range) abundance Abundance (number of individuals) demographic
	GES criteria	Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics	Distribution (range) abundance Abundance (number of individuals)
	GES criteria	Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Distribution (range) abundance Abundance (number of individuals) demographic
	GES criteria	Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success
	GES criteria	Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population	Distribution (range) abundance Abundance (number of individuals) demographic Breeding success





1			
	Phalacrocorax ca	arbo	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	ı demographic
		characteristics	
		Parameters	Breeding success
		monitored	
			distributional range and
		pattern	alst hourion a range and
		Parameters	Distribution (pattern),
		monitored	Distribution (range)
	Dodicons cristate		Distribution (range)
	Podiceps cristate		
	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	ı demographic
		characteristics	
		Parameters	Breeding success
		monitored	
		D1C4 Population	distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range)
Benthic-feeding	y birds		
Elements	Aythya ferina		
monitored	GES criteria	D1C2 Population	abundance
monitored	addressed	Parameters	Abundance (number of
	audresseu	monitored	
			individuals)
		D1C3 Population	lidemographic
		characteristics	
		Parameters	Breeding success
		monitored	
		D1C4 Population	distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range)
	Aythya fuligula		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	
		characteristics	
		Parameters	Breeding success
		monitored	Diccuing success
			distributional range and
		-	i distributional range and
		pattern	Distribution (mottown)
		Parameters	Distribution (pattern),
		monitored	Distribution (range)
	Melanitta fusca		
	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	n demographic
		characteristics	-
		characteristics	
		Parameters	Breeding success
			Breeding success





			=	distributional range and
			pattern	
			Parameters	Distribution (pattern),
			monitored	Distribution (range)
		Somateria mollis		
		GES criteria	D1C2 Population	
		addressed	Parameters	Abundance (number of
			monitored	individuals)
			D1C3 Population	demographic
			characteristics	D
			Parameters	Breeding success
			monitored	
			-	distributional range and
			pattern	
			Parameters	Distribution (pattern),
_	a i i i i i		monitored	Distribution (range)
-	Grazing birds	A		
	Elements	Anser anser		a huun da n aa
	monitored	GES criteria	D1C2 Population	
		addressed	Parameters	Abundance (number of
			monitored	individuals)
			D1C3 Population	demographic
			characteristics	
			Parameters	Breeding success
			monitored	
			=	distributional range and
			pattern	
			Parameters	Distribution (pattern),
			monitored	Distribution (range)
		Branta leucopsis		
		GES criteria	D1C2 Population	
		addressed	Parameters	Abundance (number of
			monitored	individuals)
			D1C3 Population	demographic
			characteristics	
			Parameters	Breeding success
			monitored	
			D1C4 Population	distributional range and
			pattern	
			Parameters	Distribution (pattern),
			monitored	Distribution (range)
		Cygnus olor		
		CEC suit suis	D1C2 Population	م م م م م م م
		GES criteria	DICZ Population	
		addressed	Parameters	Abundance (number of
			•	
			Parameters	Abundance (number of individuals)
			Parameters monitored	Abundance (number of individuals)
			Parameters monitored D1C3 Population	Abundance (number of individuals)
			Parameters monitored D1C3 Population characteristics	Abundance (number of individuals) demographic
			Parameters monitored D1C3 Population characteristics Parameters monitored	Abundance (number of individuals) demographic
			Parameters monitored D1C3 Population characteristics Parameters monitored	Abundance (number of individuals) demographic Breeding success
			Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population	Abundance (number of individuals) demographic Breeding success distributional range and
			Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern	Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern),
		addressed	Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters	Abundance (number of individuals) demographic Breeding success distributional range and
		addressed Fulica atra	Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters monitored	Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern), Distribution (range)
		addressed	Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern Parameters	Abundance (number of individuals) demographic Breeding success distributional range and Distribution (pattern), Distribution (range)



		D1C3 Population	demographic
		characteristics	
		Parameters	Breeding success
		monitored	
		D1C4 Population	distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range)
Wading birds			
Elements	Arenaria interpr	es	
monitored	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Breeding success
		monitored	
		D1C4 Population	distributional range and
		pattern	0
		Parameters	Distribution (pattern),
		monitored	Distribution (range)
	Calidris alpina	monitorea	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
	audresseu	monitored	individuals)
			,
		D1C3 Population	demographic
		characteristics	Dura dia mandra di
		Parameters	Breeding success
_		monitored	
		-	distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range)
	Charadrius hiati	cula	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Breeding success
		monitorod	
		monitored	
			distributional range and
		D1C4 Population	distributional range and
		D1C4 Population pattern	Distribution (pattern),
	Haematopus ost	D1C4 Population pattern Parameters monitored	
	Haematopus ost GES criteria	D1C4 Population pattern Parameters monitored ralegus	Distribution (pattern), Distribution (range)
	GES criteria	D1C4 Population pattern Parameters monitored ralegus D1C2 Population	Distribution (pattern), Distribution (range) abundance
		D1C4 Population pattern Parameters monitored ralegus D1C2 Population Parameters	Distribution (pattern), Distribution (range) abundance Abundance (number of
	GES criteria	D1C4 Population pattern Parameters monitored ralegus D1C2 Population Parameters monitored	Distribution (pattern), Distribution (range) abundance Abundance (number of individuals)
	GES criteria	D1C4 Population pattern Parameters monitored ralegus D1C2 Population Parameters monitored D1C3 Population	Distribution (pattern), Distribution (range) abundance Abundance (number of individuals)
	GES criteria	D1C4 Population pattern Parameters monitored ralegus D1C2 Population Parameters monitored D1C3 Population characteristics	Distribution (pattern), Distribution (range) abundance Abundance (number of individuals) demographic
	GES criteria	D1C4 Population pattern Parameters monitored ralegus D1C2 Population Parameters monitored D1C3 Population characteristics Parameters	Distribution (pattern), Distribution (range) abundance Abundance (number of individuals)
	GES criteria	D1C4 Population pattern Parameters monitored ralegus D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Distribution (pattern), Distribution (range) abundance Abundance (number of individuals) demographic Breeding success
	GES criteria	D1C4 Population pattern Parameters monitored ralegus D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population	Distribution (pattern), Distribution (range) abundance Abundance (number of individuals) demographic
	GES criteria	D1C4 Population pattern Parameters monitored ralegus D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population pattern	Distribution (pattern), Distribution (range) abundance Abundance (number of individuals) demographic Breeding success distributional range and
	GES criteria	D1C4 Population pattern Parameters monitored ralegus D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C4 Population	Distribution (pattern), Distribution (range) abundance Abundance (number of individuals) demographic Breeding success





		Recurvirostra av		
		GES criteria	D1C2 Population	n abundance
		addressed	Parameters	Abundance (number of
			monitored	individuals)
			D1C3 Population	n demographic
			characteristics	
			Parameters	Breeding success
			monitored	5
				n distributional range and
			pattern	
			Parameters	Distribution (pattern),
			monitored	Distribution (range)
		Tadarna tadarn		Distribution (range)
		Tadorna tadorna	-	
		GES criteria	D1C2 Population	
		addressed	Parameters	Abundance (number of
			monitored	individuals)
			D1C3 Population	n demographic
			characteristics	
			Parameters	Breeding success
			monitored	
			D1C4 Population	n distributional range and
			pattern	C C
			Parameters	Distribution (pattern),
			monitored	Distribution (range)
	Coastal ecosyste		monitored	Distribution (range)
	Elements			
		Apex predators	DACI Trankia a	the second and the second second
	monitored	GES criteria		ild species diversity
		addressed	Parameters	Species composition
			monitored	
			D4C2 Abundanc	e across trophic guilds
			Parameters	Abundance (number of
			monitored	individuals),
				//
				Distribution (pattern);
				Distribution (pattern); Distribution (range)
			D4C4 Trophic gu	Distribution (pattern); Distribution (range) illd productivity
			D4C4 Trophic gu Parameters	Distribution (pattern); Distribution (range)
	Adverse effects	on species or hab	D4C4 Trophic gu Parameters monitored	Distribution (pattern); Distribution (range) illd productivity
		on species or hab	D4C4 Trophic gu Parameters monitored itats	Distribution (pattern); Distribution (range) illd productivity
	Elements	Haliaeetus albic	D4C4 Trophic gu Parameters monitored itats illa	Distribution (pattern); Distribution (range) ild productivity Breeding success
		Haliaeetus albic GES criteria	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e	Distribution (pattern); Distribution (range) ild productivity Breeding success
	Elements	Haliaeetus albic	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size;
Creatic Jacobian State	Elements monitored	Haliaeetus albic GES criteria addressed	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e	Distribution (pattern); Distribution (range) ild productivity Breeding success
Spatial zones monitored	Elements monitored Coastal waters (Haliaeetus albic GES criteria addressed WFD),	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size;
•	Elements monitored Coastal waters (Territorial water	Haliaeetus albic GES criteria addressed WFD),	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size;
Start(and end) date of the	Elements monitored Coastal waters (Haliaeetus albic GES criteria addressed WFD),	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size;
Start(and end) date of the programme	Elements monitored Coastal waters (Territorial water 1957-9999	Haliaeetus albic GES criteria addressed WFD),	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size;
Start(and end) date of the programme Frequency of the	Elements monitored Coastal waters (Territorial water	Haliaeetus albic GES criteria addressed WFD),	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size;
Start(and end) date of the programme	Elements monitored Coastal waters (Territorial water 1957-9999	Haliaeetus albic GES criteria addressed WFD),	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size;
Start(and end) date of the programme Frequency of the	Elements monitored Coastal waters (Territorial water 1957-9999	Haliaeetus albic GES criteria addressed WFD), 's	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size;
Start(and end) date of the programme Frequency of the monitoring Type of monitoring	Elements monitored Coastal waters (Territorial water 1957-9999 Yearly Visual observati	Haliaeetus albic GES criteria addressed WFD), rs	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters monitored	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size; Breeding success
Start(and end) date of the programme Frequency of the monitoring Type of monitoring Data management and	Elements monitored Coastal waters (Territorial water 1957-9999 Yearly Visual observati Data are annual	Haliaeetus albic GES criteria addressed WFD), rs on ly reported to the	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse er Parameters monitored	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size; Breeding success mental monitoring
Start(and end) date of the programme Frequency of the monitoring Type of monitoring	Elements monitored Coastal waters (Territorial water 1957-9999 Yearly Visual observati Data are annual database KESE (Haliaeetus albic GES criteria addressed WFD), 's on ly reported to the by 1 March). Data	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters monitored	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size; Breeding success mental monitoring re regional database for
Start(and end) date of the programme Frequency of the monitoring Type of monitoring Data management and access	Elements monitored Coastal waters (Territorial water 1957-9999 Yearly Visual observati Data are annual database KESE (assessment pur	Haliaeetus albic GES criteria addressed WFD), rs on ly reported to the by 1 March). Data poses is coordinat	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters monitored	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size; Breeding success mental monitoring re regional database for M/ICES JWGBird Group.
Start(and end) date of the programme Frequency of the monitoring Type of monitoring Data management and access Indicators to which the	Elements monitored Coastal waters (Territorial water 1957-9999 Yearly Visual observati Data are annual database KESE (assessment pur BALEED1C2.3 - A	Haliaeetus albic GES criteria addressed WFD), 's on ly reported to the by 1 March). Data poses is coordinat Abundance of wat	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters monitored e national environ a collection into the ced by the HELCOI erbirds in the bre	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size; Breeding success mental monitoring re regional database for M/ICES JWGBird Group.
Start(and end) date of the programme Frequency of the monitoring Type of monitoring Data management and access	Elements monitored Coastal waters (Territorial water 1957-9999 Yearly Visual observati Data are annual database KESE (assessment pur BALEED1C2.3 - A BALEED8C2.1 - V	Haliaeetus albic GES criteria addressed WFD), rs on ly reported to the by 1 March). Data poses is coordinat Abundance of wat White tailed eagle	D4C4 Trophic gu Parameters monitored itats illa D8C2 Adverse e Parameters monitored e national environi a collection into th ced by the HELCOI rerbirds in the bre productivity	Distribution (pattern); Distribution (range) iild productivity Breeding success ffects of contaminants Productivity; Brood size; Breeding success mental monitoring re regional database for M/ICES JWGBird Group.





The monitoring programme is approved by the minister of the environment and available at https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres trateegia
(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202 6.pdf) (in Estonian).



MONITODING		DivideNdiaveteTh		of mignaton curator binda		
MONITORING PROGRAMME	(coastal area)	_Birdsiviigrate i n	rougn - Abundance	e of migratory water birds		
Introduction/overview of		rogramme is to	monitor the abund	lance of migrating		
programme	-	-				
programme	waterbirds at their migration routes in the Estonian coastal areas. It provides data to monitoring strategy "SD1.1 – Biological diversity – Birds". The					
				on D1C2 and D1C3.		
				locations on the coast.		
	_		-	y visual observations every		
				e sunrise and two hours		
				y coordinated yet. The data		
			-	abase KESE (by 1 March		
	next year).					
		dicators are still i	under developmen	t: abundance index of		
	-		ge ratio of migrato			
			-	itoring programmes in the		
		-	-	ndance and/or biomass;		
		 population cha 				
Purpose of programme		state and impact				
Other EU or international				ies of Wild Animals (Bonn		
policies to which	Convention),		o8. aco. , op co			
programme contributes	Birds Directive,					
F - 0	Habitats Directiv	ve.				
			of African-Eurasia	n Migratory Waterbirds		
Monitoring details				y visual observations every		
U				, ne sunrise and two hours		
		before the sunset. All waterbirds are counted (swans, geese, ducks, loons,				
	grebes, cormorants, auks), wading birds and seagulls (excluding great					
	-	black-backed and European herring gulls). If possible, the sex and age				
	composition of flocks are also fixed for counted species groups. The					
	monitoring is m	ainly project-bas	ed and is conducte	ed every 5 years. The		
	counting is perfe	ormed on the Põ	õsaspea site in aut	umn and the Kabli site in		
	spring.					
Ecosystem components,	Grazing birds					
anthropogenic pressures	Elements	Anser anser				
and activities monitored	monitored	GES criteria	D1C2 Populatio	n abundance		
		addressed	Parameters	Abundance (number of		
			monitored	individuals)		
			D1C3 Populatio	n demographic		
			characteristics			
			Parameters	Age distribution,		
			monitored	Sex distribution		
		Branta leucops				
		GES criteria	D1C2 Populatio			
		addressed	Parameters	Abundance (number of		
			monitorod	individuals)		
			monitored	illuiviuuais)		
			D1C3 Populatio	,		
				n demographic		
			D1C3 Populatio	,		
			D1C3 Populatio characteristics Parameters monitored	n demographic		
		Cygnus columb	D1C3 Populatio characteristics Parameters monitored vianus	n demographic Age distribution, Sex distribution		
		GES criteria	D1C3 Populatio characteristics Parameters monitored	n demographic Age distribution, Sex distribution n abundance		
			D1C3 Populatio characteristics Parameters monitored ianus D1C2 Populatio Parameters	n demographic Age distribution, Sex distribution n abundance Abundance (number of		
		GES criteria	D1C3 Populatio characteristics Parameters monitored ianus D1C2 Populatio Parameters monitored	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals)		
		GES criteria	D1C3 Populatio characteristics Parameters monitored ianus D1C2 Populatio Parameters monitored D1C3 Populatio	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals)		
		GES criteria	D1C3 Populatio characteristics Parameters monitored ianus D1C2 Populatio Parameters monitored	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic		
		GES criteria	D1C3 Populatio characteristics Parameters monitored ianus D1C2 Populatio Parameters monitored D1C3 Populatio	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals)		





C		
Cygnus cygnus	I	
GES criteria	D1C2 Population	
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	demographic
	characteristics	
	Parameters	Age distribution,
	monitored	Sex distribution
Cygnus olor		
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
	monitored	individuals)
		1
	-	
		Age distribution,
		Sex distribution
Anas nlatyrhynch		
		abundanco
	· ·	Abundance (number of
addressed		individuals)
		· ·
		demographic
		A 11 1 11 11
		Age distribution,
	monitored	Sex distribution
	· ·	
addressed		Abundance (number of
		individuals)
	-	demographic
		Age distribution,
	monitored	Sex distribution
	•	
addressed		Abundance (number of
		individuals)
	D1C3 Population	demographic
	characteristics	1
	Parameters	Age distribution,
	monitored	Sex distribution
Anas acuta	I	
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
	i arameters	· ·
	monitored	individuals)
		individuals)
	monitored	individuals)
	monitored D1C3 Population	individuals)
	monitored D1C3 Population characteristics	individuals) demographic
Anas crecca	monitored D1C3 Population characteristics Parameters	individuals) demographic Age distribution,
	monitored D1C3 Population characteristics Parameters monitored	individuals) demographic Age distribution, Sex distribution
Anas crecca GES criteria addressed	monitored D1C3 Population characteristics Parameters	individuals) demographic Age distribution, Sex distribution abundance
GES criteria	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters	individuals) demographic Age distribution, Sex distribution abundance Abundance (number of
GES criteria	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored	individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals)
GES criteria	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population	individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals)
GES criteria	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics	individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals) demographic
GES criteria	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population	individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals)
	addressed Anas platyrhyncl GES criteria addressed Anser albifrons GES criteria addressed Branta bernicla GES criteria addressed Anas acuta	Parameters monitoredCygnus olorGES criteriaD1C2 Population addressedaddressedParameters monitoredaddressedParameters monitoredAnas platyrhynt-GES criteriaD1C2 Population characteristicsaddressedParameters monitoredaddressedD1C2 Population characteristicsGES criteriaD1C2 Population characteristicsaddressedParameters monitoredAnser albifronsD1C2 Population characteristicsGES criteriaD1C2 Population characteristicsAnser albifronsD1C3 Population characteristicsGES criteriaD1C2 Population characteristicsaddressedParameters monitoredBranta berniclaD1C2 Population characteristicsGES criteriaD1C2 Population characteristicsaddressedParameters monitoredBranta berniclaD1C2 Population characteristicsGES criteriaD1C2 Population characteristicsAnas acutaParameters monitored





	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	n demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Anas penelope		
	GES criteria	D1C2 Population	n abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	,
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Anas clypeata	monitored	Sex distribution
	GES criteria	D1C2 Deputation	nahundanca
	addressed	D1C2 Population	
	auuresseu	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	n demographic
		characteristics	
		Parameters	Age distribution,
147 11 1	4-	monitored	Sex distribution
Wading bird			
Elements	Arenaria interp		
monitored	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	n demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Calidris alpina		
	GES criteria	D1C2 Population	
	addroccod	Parameters	Abundance (number of
	addressed	· ur un occoro	
	addressed	monitored	individuals)
	addressed	monitored D1C3 Population	
	autesseu	monitored	n demographic
	auresseu	monitored D1C3 Population	
		monitored D1C3 Population characteristics Parameters monitored	n demographic
	Charadrius hiati	monitored D1C3 Population characteristics Parameters monitored	n demographic Age distribution,
		monitored D1C3 Population characteristics Parameters monitored	n demographic Age distribution, Sex distribution
	Charadrius hiati	monitored D1C3 Population characteristics Parameters monitored cula	n demographic Age distribution, Sex distribution
	Charadrius hiati GES criteria	monitored D1C3 Populatio characteristics Parameters monitored cula D1C2 Populatio	n demographic Age distribution, Sex distribution n abundance
	Charadrius hiati GES criteria	monitored D1C3 Population characteristics Parameters monitored icula D1C2 Population Parameters	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals)
	Charadrius hiati GES criteria	monitored D1C3 Population characteristics Parameters monitored icula D1C2 Population Parameters monitored	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals)
	Charadrius hiati GES criteria	monitored D1C3 Population characteristics Parameters monitored cula D1C2 Population Parameters monitored D1C3 Population	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals)
	Charadrius hiati GES criteria	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic
	Charadrius hiati GES criteria	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic Age distribution,
	Charadrius hiati GES criteria addressed	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic Age distribution, Sex distribution
	Charadrius hiati GES criteria addressed Haematopus os	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored tralegus	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic Age distribution, Sex distribution n abundance
	Charadrius hiati GES criteria addressed Haematopus os GES criteria	monitoredD1C3 PopulationcharacteristicsParametersmonitoredculaD1C2 PopulationParametersmonitoredD1C3 PopulationcharacteristicsParametersmonitoredD1C3 PopulationcharacteristicsParametersmonitoredD1C3 PopulationcharacteristicsParametersmonitoredtralegusD1C2 PopulationParameters	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic Age distribution, Sex distribution n abundance Abundance (number of
	Charadrius hiati GES criteria addressed Haematopus os GES criteria	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored tralegus D1C2 Population characteristics Parameters monitored	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals)
	Charadrius hiati GES criteria addressed Haematopus os GES criteria	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored tralegus D1C2 Population Parameters monitored D1C3 Population Parameters monitored D1C3 Population	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals)
	Charadrius hiati GES criteria addressed Haematopus os GES criteria	monitoredD1C3 PopulationcharacteristicsParametersmonitoredculaD1C2 PopulationParametersmonitoredD1C3 PopulationcharacteristicsParametersmonitoredtralegusD1C2 PopulationParametersmonitoredtralegusD1C2 PopulationParametersmonitoredD1C3 PopulationcharacteristicsmonitoredD1C3 Populationcharacteristics	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic
	Charadrius hiati GES criteria addressed Haematopus os GES criteria	monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored tralegus D1C2 Population Parameters monitored D1C3 Population Parameters monitored D1C3 Population	n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals) n demographic Age distribution, Sex distribution n abundance Abundance (number of individuals)





CEC anitania	D1C2 Demulation	
GES criteria	D1C2 Population	
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	demographic
	characteristics	1
	Parameters	Age distribution,
	monitored	Sex distribution
Pluvialis apricar		
GES criteria	D1C2 Population	
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	demographic
	characteristics	
	Parameters	Age distribution,
	monitored	Sex distribution
Pluvialis squatar	rola	
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	
	characteristics	
	Parameters	Age distribution,
	monitored	Sex distribution
Vanellus vanellu		
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
dudiessed	monitored	individuals)
	D1C3 Population	,
	characteristics	laemographic
	Parameters	Age distribution,
	monitored	Sex distribution
Calidric conutus	monitored	Sex distribution
Calidris canutus GES criteria	D1C2 Population	ahundance
addressed	Parameters	Abundance (number of
addressed	monitored	individuals)
		,
	D1C3 Population	uemographic
	characteristics	A 11 1 11 11
	Parameters	Age distribution,
	monitored	Sex distribution
Calidris alba		alauralaur
GES criteria	D1C2 Population	
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	demographic
	characteristics	
	Parameters	Age distribution,
	monitored	Sex distribution
Calidris minuta	1	
GES criteria	D1C2 Population	
addressed	Parameters	Abundance (number of
	monitored	individuals)
	D1C3 Population	demographic
	characteristics	
	Parameters	Age distribution,
		- '
	monitored	Sex distribution
Calidris ferrugin		Sex distribution
Calidris ferrugin GES criteria		





	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Calidris alpina		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
_	Philomachus pug	nax	
-	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
-	Limosa lapponica		Sex distribution
-	GES criteria	D1C2 Population	ahundance
	addressed	Parameters	Abundance (number of
	auuresseu	monitored	individuals)
			,
		D1C3 Population characteristics	demographic
			Age distribution
		Parameters	Age distribution,
-	Numera	monitored	Sex distribution
-	Numenius phaec GES criteria	•	
		D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
-	Numenius arqua		
	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Actitis hypoleuco)S	
	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Tringa nebularia		
-	GES criteria	D1C2 Population	abundance
	GES CITIENA		





	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Tringa glareola		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Tringa totanus		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	1
		characteristics	-0-1
		Parameters	Age distribution,
		monitored	Sex distribution
Surface-feeding	birds		
Elements	Hydroprogne cas	spia	
monitored	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Larus canus		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
	1	D1C3 Population	demographic
			acmographic
		characteristics	uemographie
			Age distribution,
		characteristics	
	Larus fuscus grae	characteristics Parameters monitored	Age distribution,
	Larus fuscus grae GES criteria	characteristics Parameters monitored	Age distribution, Sex distribution
		characteristics Parameters monitored ellsii	Age distribution, Sex distribution
	GES criteria	characteristics Parameters monitored ellsii D1C2 Population	Age distribution, Sex distribution abundance
	GES criteria	characteristics Parameters monitored ellsii D1C2 Population Parameters	Age distribution, Sex distribution abundance Abundance (number of individuals)
	GES criteria	characteristics Parameters monitored ellsii D1C2 Population Parameters monitored	Age distribution, Sex distribution abundance Abundance (number of individuals)
	GES criteria	characteristics Parameters monitored ellsii D1C2 Population Parameters monitored D1C3 Population	Age distribution, Sex distribution abundance Abundance (number of individuals)
	GES criteria	characteristics Parameters monitored ellsii D1C2 Population Parameters monitored D1C3 Population characteristics	Age distribution, Sex distribution abundance Abundance (number of individuals) demographic
	GES criteria	characteristics Parameters monitored ellsii D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution,
	GES criteria addressed	characteristics Parameters monitored ellsii D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution, Sex distribution
	GES criteria addressed Larus fuscus inte	characteristics Parameters monitored ellsii D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored rmedius	Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution, Sex distribution
	GES criteria addressed Larus fuscus inte GES criteria	characteristics Parameters monitored ellsii D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored rmedius D1C2 Population	Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution, Sex distribution abundance
	GES criteria addressed Larus fuscus inte GES criteria	characteristics Parameters monitored Ilsii D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored rmedius D1C2 Population Parameters	Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals)
	GES criteria addressed Larus fuscus inte GES criteria	characteristics Parameters monitored Ilsii D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored ID1C2 Population Parameters monitored	Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals)
	GES criteria addressed Larus fuscus inte GES criteria	characteristics Parameters monitored ellsii D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population characteristics D1C2 Population D1C2 Population D1C3 Population D1C3 Population	Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals)
	GES criteria addressed Larus fuscus inte GES criteria	characteristics Parameters monitored ellsii D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics	Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals) demographic
	GES criteria addressed Larus fuscus inte GES criteria	characteristics Parameters monitored ellsii D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution,





addressed	Parameters	Abundance (number o
	monitored	individuals)
	D1C3 Population	
	characteristics	demoBraphie
	Parameters	Age distribution,
		-
	monitored	Sex distribution
Larus ridibundus GES criteria	D1C2 Population	abundanco
addressed	-	
addressed	Parameters	Abundance (number o
	monitored	individuals)
	D1C3 Population characteristics	demographic
	Parameters	Age distribution,
	monitored	Sex distribution
Sterna albifrons	monitoreu	Sex distribution
	D1C2 Demulation	
GES criteria	D1C2 Population	
addressed	Parameters	Abundance (number o
	monitored	individuals)
	D1C3 Population	demographic
	characteristics	
	Parameters	Age distribution,
	monitored	Sex distribution
Sterna hirundo		-
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number o
	monitored	individuals)
	D1C3 Population	,
	characteristics	actiographic
		Ago distribution
	Parameters	Age distribution,
<u>Champana an alian</u>	monitored	Sex distribution
Sterna paradisae		
GES criteria	D1C2 Population	
addressed	Parameters	Abundance (number o
	monitored	individuals)
	D1C3 Population	demographic
	characteristics	
	Parameters	Age distribution,
	monitored	Sex distribution
Sterna sandvice	nsis	-
	D1C2 Population	abundance
GES criteria	-	
	Parameters	Abundance (number o
	monitored	individuals)
	monitored D1C3 Population	individuals)
	monitored D1C3 Population characteristics	individuals) demographic
	monitored D1C3 Population characteristics Parameters	demographic Age distribution,
addressed	monitored D1C3 Population characteristics Parameters monitored	individuals) demographic
addressed Stercorarius par	monitored D1C3 Population characteristics Parameters monitored asiticus	individuals) demographic Age distribution, Sex distribution
GES criteria addressed Stercorarius par GES criteria	monitored D1C3 Population characteristics Parameters monitored asiticus D1C2 Population	individuals) demographic Age distribution, Sex distribution abundance
addressed Stercorarius par GES criteria	monitored D1C3 Population characteristics Parameters monitored asiticus	individuals) demographic Age distribution, Sex distribution abundance
addressed Stercorarius par	monitored D1C3 Population characteristics Parameters monitored asiticus D1C2 Population	individuals) demographic Age distribution, Sex distribution abundance
addressed Stercorarius par GES criteria	monitored D1C3 Population characteristics Parameters monitored asiticus D1C2 Population Parameters	individuals) demographic Age distribution, Sex distribution abundance Abundance (number o individuals)
addressed Stercorarius par GES criteria	monitored D1C3 Population characteristics Parameters monitored asiticus D1C2 Population Parameters monitored	individuals) demographic Age distribution, Sex distribution abundance Abundance (number o individuals)
addressed Stercorarius par GES criteria	monitored D1C3 Population characteristics Parameters monitored asiticus D1C2 Population Parameters monitored D1C3 Population	individuals) demographic Age distribution, Sex distribution abundance Abundance (number o individuals) demographic
addressed Stercorarius par GES criteria	monitored D1C3 Population characteristics Parameters monitored asiticus D1C2 Population Parameters monitored D1C3 Population characteristics Parameters	individuals) demographic Age distribution, Sex distribution abundance Abundance (number o individuals) demographic Age distribution,
addressed Stercorarius par GES criteria	monitored D1C3 Population characteristics Parameters monitored asiticus D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	individuals) demographic Age distribution, Sex distribution abundance Abundance (number o individuals) demographic





	addressed	Parameters	Abundance (number of	
		monitored	individuals)	
		D1C3 Population characteristics	ruemographic	
		Parameters	Age distribution,	
		monitored	Sex distribution	
Pelagic-feeding	birds			
Elements	Alca torda			
monitored	GES criteria	D1C2 Population	abundance	
	addressed	Parameters	Abundance (number of	
		monitored	individuals)	
		D1C3 Population	n demographic	
		characteristics		
		Parameters	Age distribution,	
	Caula anatica	monitored	Sex distribution	
	Gavia arctica			
	GES criteria	D1C2 Population		
	addressed	Parameters monitored	Abundance (number of individuals)	
		D1C3 Population demographic characteristics		
		Parameters	Age distribution,	
		monitored	Sex distribution	
	Gavia stellata	l	1	
	GES criteria	D1C2 Population	n abundance	
	addressed	Parameters	Abundance (number of	
		monitored	individuals)	
		D1C3 Population	n demographic	
		characteristics		
		Parameters	Age distribution,	
	Margallus alball	monitored	Sex distribution	
	Mergellus albell GES criteria	D1C2 Population	ahundance	
	addressed	Parameters	Abundance (number of	
	dudiessed	monitored	individuals)	
		D1C3 Population		
		characteristics		
		Parameters	Age distribution,	
		monitored	Sex distribution	
	Mergus mergans			
	GES criteria	D1C2 Population		
	addressed	Parameters	Abundance (number of	
		monitored	individuals)	
		D1C3 Population	aemographic	
		characteristics Parameters	Age distribution	
		monitored	Age distribution, Sex distribution	
	Mergus serrator			
	GES criteria	D1C2 Population	abundance	
	addressed	Parameters	Abundance (number of	
		monitored	individuals)	
		D1C3 Population		
		characteristics	-	
		Parameters	Age distribution,	
		monitored	Sex distribution	
	Podiceps cristat			
	GES criteria	D1C2 Population	n abundance	





	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	I
		Parameters	Age distribution,
		monitored	Sex distribution
	Phalacrocorax ca	arbo	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Podiceps grisege	ina	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	,
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Podiceps auritus		
	GES criteria	D1C2 Population	ahundance
	addressed	Parameters	Abundance (number of
	addressed	monitored	individuals)
		D1C3 Population	,
		characteristics	aemographic
			Ago distribution
		Parameters	Age distribution, Sex distribution
	Livia a alma	monitored	Sex distribution
	Uria aalge		1 1
	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Cepphus grylle	1	
	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
Benthic-feeding	birds		
Elements	Clangula hyemal	is	
monitored	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Aythya ferina		
	GES criteria	D1C2 Population	abundance
	JEJ CITCITA		asunuunce





	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Aythya fuligula		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	· ·
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Aythya marila		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	
		characteristics	i acmographic
		Parameters	Age distribution,
		monitored	Sex distribution,
	Bucophala clans		
	Bucephala clang	D1C2 Population	abundanco
	addressed	Parameters	
	addressed		Abundance (number of
		monitored	individuals)
		D1C3 Population	i demographic
		characteristics	
		Parameters	Age distribution,
		monitored	Sex distribution
	Melanitta fusca		
	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C3 Population	i demographic
		characteristics	1
		Parameters	Age distribution,
		monitored	Sex distribution
	Melanitta nigra		
	Melanitta nigra GES criteria	D1C2 Population	
		D1C2 Population Parameters	abundance Abundance (number of
	GES criteria		
	GES criteria	Parameters	Abundance (number of individuals)
	GES criteria	Parameters monitored	Abundance (number of individuals)
	GES criteria	Parameters monitored D1C3 Population	Abundance (number of individuals)
	GES criteria	Parameters monitored D1C3 Population characteristics	Abundance (number of individuals) demographic
	GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored	Abundance (number of individuals) demographic Age distribution,
	GES criteria addressed	Parameters monitored D1C3 Population characteristics Parameters monitored	Abundance (number of individuals) demographic Age distribution, Sex distribution
	GES criteria addressed Somateria molli	Parameters monitored D1C3 Population characteristics Parameters monitored ssima	Abundance (number of individuals) demographic Age distribution, Sex distribution abundance
	GES criteria addressed Somateria molli GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored ssima D1C2 Population	Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of
	GES criteria addressed Somateria molli GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored ssima D1C2 Population Parameters monitored	Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals)
	GES criteria addressed Somateria molli GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored Ssima D1C2 Population Parameters monitored D1C3 Population	Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals)
	GES criteria addressed Somateria molli GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored Ssima D1C2 Population Parameters monitored D1C3 Population characteristics	Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals) demographic
	GES criteria addressed Somateria molli GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters	Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution,
dverse effects	GES criteria addressed Somateria molli GES criteria addressed	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals) demographic
dverse effects	GES criteria addressed Somateria molli GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters monitored	Abundance (number of individuals) demographic Age distribution, Sex distribution abundance Abundance (number of individuals) demographic Age distribution,





		addressed	Parameters monitored	Incidence
		Wading birds		
		GES criteria	GES component	not relevant
		addressed	Parameters	Incidence
			monitored	
		Surface-feeding		
		GES criteria	GES component	
		addressed	Parameters	Incidence
			monitored	
		Pelagic-feeding		
		GES criteria	GES component	
		addressed	Parameters	Incidence
			monitored	
		Benthic-feeding		
		GES criteria	GES component	
		addressed	Parameters	Incidence
	Constal		monitored	
Spatial zones monitored	Coastal waters (WFD)		
Start(and end) date of the programme	2004-9999			
Frequency of the	Other (specify)			
monitoring				
Type of monitoring	Visual observati	on		
Data management and	The data collect	ed during the mo	nitoring are subm	itted to the national
access	environmental r	monitoring databa	ase KESE. More de	tailed data are also
	available at Põõ	saspea monitorin	g website of Estor	nian Ornithological Society
		oy.ee/poosaspea,		
Contact				is.leivits@envir.ee
References	-	programme is ap	proved by the min	ister of the environment
	and available at			
	-	vir.ee/et/eesmar	gid-tegevused/me	erekeskkonna-kaitse/meres
	trateegia			
			ult/files/mereala_	_seireprogramm_2021_202
	6.pdf) (in Estoni	an).		



MONITORING PROGRAMME	BALEE-D0104-4_ (feeding in off-s		Abundance of i	migratory water birds		
Introduction/overview of	The aim of the p	programme is to m	nonitor the abund	lance of migratory		
programme	waterbirds durir	ng their migration	and feeding in th	e Estonian off-shore areas.		
	It provides data to monitoring strategy "SD1.1 – Biological diversity – Birds".					
	The programme	is related to GES	Descriptor D1, Cr	iterion D1C2 and		
	potentially D1C4	1, as well as GES D	escriptor D4, Crit	eria D4C1 and D4C2.		
	Monitoring is co	nducted with a go	bal to cover all are	eas once in five years.		
	Waterbird speci	es and abundance	es are recorded by	y flight monitoring during		
	the migration pe	eriod. The prograr	nme is regionally	coordinated via		
	HELCOM/ICES J	NGBirdGroup. Da	ta are reported to	o the national		
	environmental r	nonitoring databa	se KESE (by 1 Ma	rch next year).		
	There are no op	erational indicato	rs yet, but the pro	oposals have been done.		
	The programme	corresponds to the	he following mon	itoring programmes in the		
	indicative list:	Mobile species -	distribution, abur	ndance and/or biomass.		
Purpose of programme	Environmental s	tate and impacts				
Other EU or international	Birds Directive,					
policies to which	Habitats Directiv	/e,				
programme contributes	Agreement on t	he Conservation o	of African-Eurasia	n Migratory Waterbirds,		
	Convention on t	he Conservation of	of Migratory Spec	ies of Wild Animals (Bonn		
	Convention)					
Monitoring details	The main metho	od used for the da	ta collection is co	unting and aerial surveys		
				narine area up to 50 m		
	water depth is covered by the monitoring and divided to 10 monitoring areas.					
	The visual aerial survey line transect method presents the counting the					
	number of all migratory bird species from moving platform at a certain time period by line transect sections. There is a main bar of a transect with a					
				stered on it. The main bar		
	is also divided into the sections so that detectability of birds could be					
		-		visions also allow estimating		
	-			pirds in the monitoring		
			-	stribution. The primary		
	-			the transect section within		
				prresponds to 250 m		
				ng transects is usually 3 km,		
				ed in areas, where low		
		d be expected, e.g		nducted annually with		
	-		•	a five-year period). The		
		-		ed surveys as additional		
		d will be specified		-		
Ecosystem components,	Surface-feeding		as the regular in			
anthropogenic pressures	Elements	Larus argentatus	2			
and activities monitored	monitored	GES criteria	D1C2 Population	n abundance		
	monitorea	addressed	Parameters	Abundance (number of		
		uuuresseu	monitored	individuals)		
				n distributional range and		
			pattern			
			Parameters	Distribution (pattern),		
			monitored	Distribution (range),		
			monicorea	Distribution (spatial)		
		Larus canus				
		GES criteria	D1C2 Population	n abundance		
		addressed	Parameters	Abundance (number of		
			monitored	individuals)		
				n distributional range and		
			pattern			
			L			





		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
	Hydrocoloeus m		
	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C4 Population	distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
Pelagic-feeding	birds		
Elements	Alca torda		
monitored	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C4 Population	distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
	Gavia arctica		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C4 Population	distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
	Gavia stellata		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C4 Population	distributional range and
		pattern	-
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
			Distribution (spatial)
	Phalacrocorax ca	rbo	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals)
		D1C4 Population	distributional range and
		pattern	
		Parameters	Distribution (pattern),
		monitored	Distribution (range),
		monitored	Distribution (range), Distribution (spatial)
Benthic-feeding	birds	monitored	
Benthic-feeding Elements	birds Clangula hyemal		
			Distribution (spatial)
Elements	Clangula hyemal	is	Distribution (spatial)
Elements	Clangula hyemal GES criteria	is D1C2 Population	Distribution (spatial) abundance
Elements	Clangula hyemal GES criteria	is D1C2 Population Parameters monitored	Distribution (spatial) abundance Abundance (number of





*		1		
			Parameters	Distribution (pattern),
			monitored	Distribution (range),
				Distribution (spatial)
		Melanitta fusca		-
		GES criteria	D1C2 Population	n abundance
		addressed	Parameters	Abundance (number of
			monitored	individuals)
			D1C4 Population	n distributional range and
			pattern	-
			Parameters	Distribution (pattern),
			monitored	Distribution (range),
				Distribution (spatial)
		Melanitta nigra		
		GES criteria	D1C2 Population	n abundance
		addressed	Parameters	Abundance (number of
			monitored	individuals)
				n distributional range and
			pattern	
			Parameters	Distribution (pattern),
			monitored	Distribution (range),
				Distribution (spatial)
		Somateria molli	ssima	
		GES criteria	D1C2 Population	n abundance
		addressed	Parameters	Abundance (number of
			monitored	individuals)
				n distributional range and
			pattern	
			Parameters	Distribution (pattern),
			monitored	Distribution (range),
				Distribution (spatial)
Spatial zones monitored	Territorial water	rs.		(1) (1)
	Coastal waters (
	EEZ (or similar)			
Start(and end) date of the	2022-9999			
programme				
Frequency of the	Yearly			
monitoring	,			
Type of monitoring	Visual observati	on,		
	Remote flight in	nagery		
Data management and		luring the monito	ring are submitted	d to the national
access		nonitoring databa	-	
Contact		nment Agency, ka		
		sity of Life Science		ricultural and
		ciences, Leho Lui	-	
References				nister of the environment
	and available at		,	
			gid-tegevused/me	erekeskkonna-kaitse/meres
	trateegia	. ,		,
	-	nvir.ee/sites/defa	ult/files/mereala	_seireprogramm_2021_202
	6.pdf) (in Estoni			
	·· / (··· ====	,		





MONITORING	BALEE-D0104-5	SealsAbundance	- Seals – abundan	ce
PROGRAMME				
Introduction/overview of programme	seals at the haul abundance and trends of these s data for the stat abundance) and conducted yearl coordinated by I Data are yearly r KESE (by 1 Nove a generalised for The programme indicative list:	outs on land or ic abundance trend species during the us assessments u D1C4 (distribution y at the designate HELCOM and the reported to the na mber), but for rind rm due to protect corresponds to t	e, in order to proc s as well as the dis eir moulting and p nder GES criteria l onal range and pat ed sites. The progr HELCOM monitori ational environme ged seals, data ar cion requirements he following moni distribution, abur	stributions and distribution upping seasons. It provides D1C2 (population stern). Monitoring is ram is regionally ing guidelines are followed. ental monitoring database e publicly available only in
Purpose of programme	Environmental s	tate and impacts,		
	Effectiveness of			
Other EU or international policies to which	Habitats Directiv	ve, pring programme:	-	
programme contributes			», at national legisla	tion
Monitoring details				s. All monitoring areas are
	period from 23 M between 12 and cold winters and	riod counting of s May to 5 June. Th 25 April. The ear l ice cover occurr	e aerial counting o ly spring flight sur	luring regionally agreed of ringed seals takes place veys can be conducted in isual observations from o ice cover).
Ecosystem components,	Seals	1		
anthropogenic pressures	Elements	Halichoerus gry		
and activities monitored	monitored	GES criteria	D1C2 Population	
		addressed	Parameters	Abundance (number of
			monitored	individuals)
		Pusa hispida		1 1
		GES criteria	D1C2 Population	
		addressed	monitored	Abundance (number of individuals)
Spatial zones monitored	Territorial water		monitored	muiviuuais)
Spatial zones monitoreu	Coastal waters (
Start(and end) date of the	1994-9999			
programme				
Frequency of the monitoring	Yearly			
Type of monitoring	Remote flight im	nagery,		
	Visual observation			
Data management and	Data collected d	uring the monito	ring are submitted	to the national
access	environmental n	nonitoring databa	ase KESE. The data	concerning ringed seals
	are publicly avai	lable only in a gei	neralised form.	
Indicators to which the		Grey seal abundar		
programme contributes		Distributional rang		
		Distributional patt		
		linged seal abund		
)istributional rang		
		•	rn of ringed seals	
Contact				kiristaja@envir.ee,
			lla.kovtun-Kante@	envir.ee; Arthur Kivi:
	arthur.kivi@env	ir.ee.		





The monitoring programme is approved by the minister of the environment and available at https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres trateegia (https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
6.pdf) (in Estonian).





MONITORING PROGRAMME	BALEE-D0104-6_	SealsReproducti	on - Seals – breed	ling success
Introduction/overview of programme	Visual counting of breeding sites or 15 February to 3 is estimated. Mo GES criterion D1 and pattern). Th HELCOM. Data a database KESE (k The programme indicative list:	of pups (includin n land (islands) s 1 March every y onitoring provide C2 (population a e program data o re yearly reporte by 1 November). corresponds to 1 Mobile species –	g dead specimen) everal times durin ear. The number of s data for the stat bundance) and Di collection is region ed to the national the following mon distribution, abu	ding success of grey seals. is conducted on their og the breeding period from of pups and their death rate tus assessments under the 1C4 (distributional range nally coordinated by environmental monitoring nitoring programmes in the ndance and/or biomass; opulation characteristics.
Purpose of programme	Environmental s Pressures in the	tate and impacts	,	
Other EU or international policies to which programme contributes Monitoring details	Grey seal pups a the breeding per accordance with monitoring Seal detailed method aruanne, https://seire.kes &id=1161:2008-	re surveyed duri riod (15 February HELCOM recom abundance and lology is describe	y - 31 March). The mendations (HEL distribution in the ed by Jüssi and Jüsnehmer.php?option=	ation reeding sites, 4 times during monitoring is conducted in COM, 2018. Guidelines for HELCOM area). The si in 2008 (Hüljeste com_content&view=article kesisuse-ja-maastike-seire&
	Itemid=3877).			
Ecosystem components, anthropogenic pressures and activities monitored	Seals Elements monitored	Halichoerus gry GES criteria addressed		on demographic Breeding success
Spatial zones monitored	Coastal waters (WFD)		
Start(and end) date of the programme	1990-9999			
Frequency of the monitoring Type of monitoring Data management and access	Yearly Visual observation Data collected d environmental n	uring the monito	oring are submitte ase KESE.	d to the national
Indicators to which the programme contributes	BALEED1C2.1 - G			
Contact		n-Kante: anastas		:.kiristaja@envir.ee, @envir.ee; Arthur Kivi:
References	and available at https://www.en trateegia	vir.ee/et/eesman	gid-tegevused/m	nister of the environment erekeskkonna-kaitse/meres _seireprogramm_2021_202



MONITORING	BALEE-D010403	8-7_FishCoastal - C	Coastal fish			
PROGRAMME Introduction/overview of programme Purpose of programme Other EU or international policies to which	and communities structure; fecures species (extent, biomass)). It pro- "SD3-Commerce ecosystems", but regionally coorder monitoring mare coastal fish spec- directed towarde (perch, flounder for migratory (as selected rivers (HD needs to be The programme as a separate su The programme indicative list: Mobile species rates from fisher Environmental st Human activities	es (Species compo dity, survival and suitability); Speci ovides data to mo cially exploited fish at also to "SD2– N dinated by HELCO nual is followed. D cies are included i ds economically sig r, pikeperch). Atla nadromous) fishe salmonid habitats developed for the e was modified fro b-programme in 2 e corresponds to f Mobile species – – population char tries (targeted and state and impacts s causing the pres measures Framework Multi	sition of the grou mortality/injury es abundance (m nitoring strategy " and "SD4/SD1 on-indigenous sp M (partially also I uring the annual n the dataset, bu gnificant or ecolo ntic salmon is us s and is monitore s and is monitore b. Monitoring of e sea area as well m 2014 by addin 2014. ollowing monitor distribution, abu acteristics; Mobil I/or incidental).	s of the coastal fish species up; Size, age and sex rates; Habitat for the umbers of individuals and/or "SD1.4 Biodiversity – Fish", Food webs / Biodiversity – becies". The program is by ICES) and the HELCOM monitoring programme, all it special attention is ogically relevant key species ed as an indicator species ed in coastal waters and protected fish species under l. ng migratory fishes that were ring programmes in the indance and/or biomass; le species – mortality/injury mmon Fisheries Policy),		
programme contributes	Monitoring pro	Monitoring programme targeting at national legislation Data on all coastal fish species are being collected annually in discrete				
Monitoring details	monitoring area (https://www.e	as within the natio	onal fisheries data	annually in discrete a collection programme alandus/kalanduse-riiklik-an		
Ecosystem components,	Coastal fish					
anthropogenic pressures	Elements	Abramis brama				
and activities monitored	monitored	GES criteria addressed	D1C2 Populatic Parameters monitored	Abundance Abundance (number of individuals), Mass (catch weight per unit effort)		
				on demographic		
			characteristics	Lawath		
			Parameters monitored	Length, Sex distribution, Age distribution		
		Alburnus alburn				
		GES criteria addressed	D1C2 Population	Abundance Abundance		
		autresseu	monitored	individuals), Mass (catch weight per unit effort)		
			characteristics	on demographic		
			Parameters monitored	Length, Sex distribution, Age distribution		
		Alosa fallax				





GES criteri			
		2 Population	abundance
addressed	Para	imeters	Abundance (number of
	mor	nitored	individuals),
			Mass (catch weight per
			unit effort)
	D1C	3 Population	demographic
		acteristics	
		meters	Length,
		nitored	
	mor	ntored	Sex distribution,
			Age distribution
	es tobianus		
GES criteri	-	2 Population	abundance
addressed		imeters	Abundance (number of
	mor	nitored	individuals),
			Mass (catch weight per
			unit effort)
	D1C	3 Population	demographic
	char	acteristics	
	Para	meters	Length,
	mor	nitored	Sex distribution,
		licoreu	Age distribution
Anguilla a	aguilla		ישכ מוזנו ושמנוטוו
GES criteri		2 Donulation	abundanaa
		-	abundance
addressed		imeters	Abundance (number of
	mor	nitored	individuals),
			Abundance index of
			European eel in
			monitoring catches
			(CPUE); Mass (catch
			weight per unit effort)
	D1C	3 Population	demographic
	char	acteristics	
	Para	meters	Length,
			- 0- /
	mor	nitored	Sex distribution
	mor	nitored	Sex distribution,
Blicca biog		nitored	Sex distribution, Age distribution
Blicca bjoe	erkna		Age distribution
GES criteri	erkna a D1C	2 Population	Age distribution
	erkna a D1C Para	2 Population imeters	Age distribution abundance Abundance (number of
GES criteri	erkna a D1C Para	2 Population	Age distribution abundance Abundance (number of individuals),
GES criteri	erkna a D1C Para	2 Population imeters	Age distribution abundance Abundance (number of individuals), Mass (catch weight per
GES criteri	erkna a <u>D1C</u> Para mor	2 Population imeters itored	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteri	erkna a <u>D1C</u> Para mor	2 Population imeters itored	Age distribution abundance Abundance (number of individuals), Mass (catch weight per
GES criteri	erkna a D1C Para mor	2 Population imeters itored	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteri	a D1C Para mor D1C char	2 Population meters nitored 3 Population	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteri	a D1C Para mor D1C Para mor D1C char Para	2 Population meters nitored 3 Population racteristics	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length,
GES criteri	a D1C Para mor D1C Para mor D1C char Para	2 Population imeters iitored 3 Population acteristics imeters	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution,
GES criteri addressed	a D1C Para mor D1C char Para mor	2 Population imeters iitored 3 Population acteristics imeters	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length,
GES criteri addressed Carassius	erkna a D1C Para mor D1C char Para mor	2 Population interes itored 3 Population facteristics interes itored	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution
GES criteri addressed Carassius GES criteri	a D1C Para mor D1C char Para mor carassius a D1C	2 Population imeters iitored 3 Population acteristics imeters iitored 2 Population	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance
GES criteri addressed Carassius	erkna a D1C Para mor D1C char Para mor carassius a D1C Para	2 Population interes itored 3 Population acteristics interes itored 2 Population interes	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of
GES criteri addressed Carassius GES criteri	erkna a D1C Para mor D1C char Para mor carassius a D1C Para	2 Population imeters iitored 3 Population acteristics imeters iitored 2 Population	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals),
GES criteri addressed Carassius GES criteri	erkna a D1C Para mor D1C char Para mor carassius a D1C Para	2 Population interes itored 3 Population acteristics interes itored 2 Population interes	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per
GES criteri addressed Carassius GES criteri	erkna a D1C Para mor D1C char Para mor carassius a D1C char Para mor	2 Population interes iitored 3 Population racteristics interes iitored 2 Population imeters iitored	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteri addressed Carassius GES criteri	erkna a D1C Para mor D1C char Para mor carassius a D1C char Para mor	2 Population interes iitored 3 Population racteristics interes iitored 2 Population imeters iitored	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per
GES criteri addressed Carassius GES criteri	a D1C Para mor D1C char Para mor carassius a D1C Para mor D1C	2 Population interes iitored 3 Population racteristics interes iitored 2 Population imeters iitored	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteri addressed Carassius GES criteri	a D1C Para mor D1C char Para mor carassius a D1C char para mor D1C char para	2 Population interes itored 3 Population acteristics interes itored 2 Population interes itored 3 Population	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic
GES criteri addressed Carassius GES criteri	erkna a D1C Para mor D1C char Para mor carassius a D1C char Para mor D1C char Para mor Para	2 Population interes itored 3 Population acteristics intered 2 Population intered 3 Population acteristics	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length,
GES criteri addressed Carassius GES criteri	erkna a D1C Para mor D1C char Para mor carassius a D1C char Para mor D1C char Para mor Para	2 Population interes intored 3 Population racteristics intered 2 Population meters intored 3 Population racteristics intored	Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic





Carassius gibeli	D1C2 Population	abundance
	-	
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per unit effort)
	D1C3 Population	demographic
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Coregonus mar		
GES criteria	D1C2 Population	
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Population	demographic
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Cyprinus carpio		
GES criteria	D1C2 Population	abundance
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Population	demographic
	characteristics	I
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Esox lucius		
GES criteria	D1C2 Population	abundance
	Parameters	abundance Abundance (number of
GES criteria		abundance Abundance (number of individuals),
GES criteria	Parameters	abundance Abundance (number of individuals), Mass (catch weight per
GES criteria	Parameters monitored	abundance Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteria	Parameters monitored D1C3 Population	abundance Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteria	Parameters monitored D1C3 Population characteristics	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic
GES criteria	Parameters monitored D1C3 Population characteristics Parameters	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length,
GES criteria	Parameters monitored D1C3 Population characteristics	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution,
GES criteria addressed	Parameters monitored D1C3 Population characteristics Parameters	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length,
GES criteria addressed Gadus morhua	Parameters monitored D1C3 Population characteristics Parameters monitored	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution
GES criteria addressed Gadus morhua GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance
GES criteria addressed Gadus morhua	Parameters monitoredD1C3 Population characteristicsParameters monitoredD1C2 Population Parameters	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of
GES criteria addressed Gadus morhua GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals),
GES criteria addressed Gadus morhua GES criteria	Parameters monitoredD1C3 Population characteristicsParameters monitoredD1C2 Population Parameters	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per
GES criteria addressed Gadus morhua GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteria addressed Gadus morhua GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population Parameters monitored D1C3 Population D1C3 Population	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteria addressed Gadus morhua GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population Parameters monitored D1C3 Population characteristics	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic
GES criteria addressed Gadus morhua GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length,
GES criteria addressed Gadus morhua GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population Parameters monitored D1C3 Population characteristics	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution,
GES criteria addressed Gadus morhua GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored D1C2 Population Parameters monitored D1C3 Population characteristics Parameters	abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution abundance Abundance (number of individuals), Mass (catch weight per unit effort) demographic Length,





addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Populatio	on demographic
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Gymnocepha	alus cernua	
GES criteria	D1C2 Population	on abundance
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Populatio	on demographic
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Hyperoplus la	anceolatus	
GES criteria	D1C2 Populatio	on abundance
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Populatio	on demographic
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
	monitored	Age distribution
Lampetra flu	viatilis	
	D1C2 Populatio	on abundance
GES criteria	D1C2 Populatio	
	Parameters	Abundance (number of
GES criteria		Abundance (number of individuals),
GES criteria	Parameters	Abundance (number of individuals), Mass (catch weight per
GES criteria	Parameters monitored	Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteria	Parameters monitored D1C3 Population	Abundance (number of individuals), Mass (catch weight per
GES criteria	Parameters monitored D1C3 Populatic characteristics	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic
GES criteria	Parameters monitored D1C3 Populatic characteristics Parameters	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length,
GES criteria	Parameters monitored D1C3 Populatic characteristics	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution,
GES criteria addressed	Parameters monitored D1C3 Populatic characteristics Parameters monitored	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length,
GES criteria addressed Leuciscus asp	Parameters monitored D1C3 Populatic characteristics Parameters monitored	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution
GES criteria addressed Leuciscus asp GES criteria	Parameters monitored D1C3 Populatic characteristics Parameters monitored D1C2 Populatic	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution
GES criteria addressed Leuciscus asp	Parameters monitored D1C3 Populatic characteristics Parameters monitored D1C2 Populatic Parameters	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution on abundance Abundance (number of
GES criteria addressed Leuciscus asp GES criteria	Parameters monitored D1C3 Populatic characteristics Parameters monitored D1C2 Populatic	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution on abundance Abundance (number of individuals),
GES criteria addressed Leuciscus asp GES criteria	Parameters monitored D1C3 Populatic characteristics Parameters monitored D1C2 Populatic Parameters	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution on abundance Abundance (number of individuals), Mass (catch weight per
GES criteria addressed Leuciscus asp GES criteria	Parameters monitored D1C3 Populatic characteristics Parameters monitored D1C2 Populatic Parameters monitored	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution on abundance Abundance (number of individuals), Mass (catch weight per unit effort)
GES criteria addressed Leuciscus asp GES criteria	Parameters monitored D1C3 Populatic characteristics Parameters monitored D1C2 Populatic Parameters monitored D1C3 Populatic	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution on abundance Abundance (number of individuals), Mass (catch weight per
GES criteria addressed Leuciscus asp GES criteria	Parameters monitored D1C3 Populatic characteristics Parameters monitored D1C2 Populatic Parameters monitored D1C3 Populatic characteristics	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution on abundance Abundance (number of individuals), Mass (catch weight per unit effort) on demographic
GES criteria addressed Leuciscus asp GES criteria	Parameters monitored D1C3 Populatic characteristics Parameters monitored D1C2 Populatic Parameters monitored D1C3 Populatic characteristics Parameters	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution on abundance Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length,
GES criteria addressed Leuciscus asp GES criteria	Parameters monitored D1C3 Populatic characteristics Parameters monitored D1C2 Populatic Parameters monitored D1C3 Populatic characteristics	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution on abundance Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution,
GES criteria addressed Leuciscus asp GES criteria	Parameters monitored D1C3 Populatic characteristics Parameters monitored D1C2 Populatic Parameters monitored D1C3 Populatic characteristics Parameters monitored	Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length, Sex distribution, Age distribution on abundance Abundance (number of individuals), Mass (catch weight per unit effort) on demographic Length,





addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Populatio	•
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Leuciscus leuci		
GES criteria	D1C2 Populatio	
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
	D1C2 Derevlat	unit effort)
	D1C3 Populatio	n demographic
	characteristics	Longth
	Parameters	Length,
	monitored	Sex distribution,
Lota lota		Age distribution
Lota lota	D1C2 Dopulatia	nahundansa
GES criteria addressed	D1C2 Populatio	Abundance (number of
auuresseu	monitored	individuals),
	monitored	Mass (catch weight per
		unit effort)
	D1C3 Populatio	,
	characteristics	n demographic
	Parameters	Length,
	monitored	Sex distribution,
	monitoreu	Age distribution
Neogobius mel	anostomus	
GES criteria	D1C2 Populatio	n abundance
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Populatio	
	characteristics	-0 -1
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Osmerus eperla	anus	
GES criteria	D1C2 Populatio	n abundance
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Populatio	n demographic
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
A 111 111		
Rutilus rutilus		





addressed	Parameters	Abundance (number of		
	monitored	individuals),		
		Mass (catch weight per		
		unit effort)		
	D1C3 Populatio	on demographic		
	characteristics			
	Parameters	Length,		
	monitored	Sex distribution,		
		Age distribution		
	throphthalmus			
GES criteria	D1C2 Populatio			
addressed	Parameters	Abundance (number of		
	monitored	individuals),		
		Mass (catch weight per		
	D1C2 D	unit effort)		
	D1C3 Populatio	on demographic		
	characteristics	Leveth		
	Parameters	Length,		
	monitored	Sex distribution,		
		Age distribution		
	s maximus [Psetta r			
GES criteria	D1C2 Populatio			
addressed	Parameters	Abundance (number of		
	monitored	individuals),		
		Mass (catch weight per		
	D1C2 Deputet	unit effort)		
	D1C3 Populatio	in demographic		
	characteristics			
	Parameters	Length,		
	monitored	Sex distribution,		
Squalius ceph	aluc	Age distribution		
GES criteria	D1C2 Populatio	n ahundance		
addressed	Parameters	Abundance (number of		
addressed	monitored	individuals),		
	monitored	Mass (catch weight per		
		unit effort)		
	D1C3 Populatio			
	characteristics			
	Parameters	Length,		
	monitored	Sex distribution,		
		Age distribution		
Zoarces vivipa	irus	<u> </u>		
GES criteria	D1C2 Populatio	n abundance		
addressed	Parameters	Abundance (number of		
	monitored	individuals),		
		Mass (catch weight per		
		unit effort)		
	D1C3 Populatio			
	characteristics	- '		
	Parameters	Length,		
	monitored	Sex distribution,		
		Age distribution		
		-		
Tinca tinca				





addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per unit effort)
	D1C3 Population characteristics	n demographic
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Vimba vimba		-
GES criteria	D1C2 Population	n abundance
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Population	
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
	monitorea	Age distribution
Platichthys flesu	c	י שכ מוזנו ואמנוסוז
GES criteria	S D1C2 Population	abundanco
addressed	Parameters	Abundance (number of
auuresseu		
	monitored	individuals),
		Biomass,
		Mass (catch weight per
		unit effort)
	D1C3 Population	i demographic
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Sander luciopero		
GES criteria	D1C2 Population	
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Biomass,
		Mass (catch weight per
		unit effort)
	D1C3 Population	n demographic
	characteristics	1
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
		Age distribution
Cobitis taenia		Age distribution
Cobitis taenia GES criteria	D1C2 Population	-
	D1C2 Population Parameters	-
GES criteria	-	abundance
GES criteria	Parameters	abundance Abundance (number of
GES criteria	Parameters	abundance Abundance (number of individuals),
GES criteria	Parameters	abundance Abundance (number of individuals), Biomass,
GES criteria	Parameters monitored D1C3 Population	abundance Abundance (number of individuals), Biomass, Mass (catch weight per unit effort)
GES criteria	Parameters monitored D1C3 Population characteristics	abundance Abundance (number of individuals), Biomass, Mass (catch weight per unit effort) demographic
GES criteria	Parameters monitored D1C3 Population characteristics Parameters	abundance Abundance (number of individuals), Biomass, Mass (catch weight per unit effort) demographic Length,
GES criteria	Parameters monitored D1C3 Population characteristics	abundance Abundance (number of individuals), Biomass, Mass (catch weight per unit effort) demographic Length, Sex distribution,
GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored	abundance Abundance (number of individuals), Biomass, Mass (catch weight per unit effort) demographic Length, Sex distribution, Age distribution
GES criteria	Parameters monitored D1C3 Population characteristics Parameters monitored	abundance Abundance (number of individuals), Biomass, Mass (catch weight per unit effort) demographic Length, Sex distribution,





		Parameters	Distribution (spatial)
		monitored	
	Coregonus wide	greni	1
	GES criteria	D1C2 Population	abundance
	addressed	Parameters monitored	Abundance (number of individuals), Biomass, Mass (catch weight per
			unit effort)
		D1C3 Population characteristics	,
		Parameters	Length,
		monitored	Sex distribution,
			Age distribution
	Gobio gobio	1	
	GES criteria	D1C2 Population	
	addressed	Parameters monitored	Abundance (number of individuals),
			Biomass, Mass (catch weight per
			unit effort)
		D1C3 Population	1
		characteristics	- 0
		Parameters	Length,
		monitored	Sex distribution,
			Age distribution
	Platichthys soler		
	GES criteria	D1C2 Population	
	addressed	Parameters monitored	Abundance (number of individuals),
			Biomass,
			Mass (catch weight per unit effort)
		D1C3 Population	1
		characteristics	
		Parameters	Length,
		monitored	Sex distribution,
			Age distribution
Pelagic shelf fish			
Elements	Belone belone	1	
monitored	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals),
			Mass (catch weight per unit effort)
		D1C3 Population	
		characteristics	actino Brabillo
		Parameters	Length,
		monitored	Sex distribution,
			Age distribution
	Coregonus albul	a	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals),
			Mass (catch weight per unit effort)





	D1C3 Populatio	n demographic
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Coregonus lava	iretus	
GES criteria	D1C2 Populatio	n abundance
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Populatio	n demographic
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
	D1C4 Populatio	n distributional range and
	pattern	
	Parameters	Distribution (spatial)
	monitored	
Cyclopterus lur	•	
GES criteria	D1C2 Populatio	
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
	D1C2 Damulatia	unit effort)
	D1C3 Populatio characteristics	n demographic
		Longth
	Parameters monitored	Length, Sex distribution,
	monitored	Age distribution
Pelecus cultrat		Age distribution
GES criteria	D1C2 Populatio	n abundance
addressed	Parameters	Abundance (number of
dddressed	monitored	individuals),
	monitorea	Mass (catch weight per
		unit effort)
	D1C3 Populatio	
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Salmo trutta tr	utta	
GES criteria	D1C2 Populatio	n abundance
addressed	Parameters	Abundance (number of
	monitored	individuals),
		Mass (catch weight per
		unit effort)
	D1C3 Populatio	n demographic
	characteristics	
	Parameters	Length,
	monitored	Sex distribution,
		Age distribution
Clupea hareng	us	





	addressed	Parameters	Abundance (number of
		monitored	individuals),
			Mass (catch weight per
	_	D1C2 Deputation	unit effort)
		D1C3 Populatior characteristics	rdemographic
		Parameters	Length,
		monitored	Sex distribution,
		monitorea	Age distribution
	Salmo salar		Age distribution
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals),
			Mass (catch weight per
			unit effort)
		D1C3 Population	
		characteristics	0 1
		Parameters	Length,
		monitored	Sex distribution,
			Age distribution
	Sprattus sprattu	S	
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals),
			Mass (catch weight per
			unit effort)
		D1C3 Populatior	n demographic
		characteristics	1
		Parameters	Length,
		monitored	Sex distribution,
			Age distribution
Demersal shelf f			
Elements	Myoxocephalus		
monitored	GES criteria	D1C2 Population	
	addressed	Parameters	Abundance (number of
		monitored	individuals),
			Mass (catch weight per
		D1C2 Dopulation	unit effort)
		D1C3 Populatior characteristics	i demographic
		Parameters	Length,
		monitored	Sex distribution,
		monitored	Age distribution
	Myoxocephalus	scorpius	ישכ מוסנו וסמנוסוו
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
	addressed	monitored	
	addressed	monitored	individuals),
		monitored	individuals), Mass (catch weight per
	uuresseu		individuals), Mass (catch weight per unit effort)
	duresseu	monitored D1C3 Population characteristics	individuals), Mass (catch weight per unit effort)
		D1C3 Populatior	individuals), Mass (catch weight per unit effort) demographic
		D1C3 Population characteristics	individuals), Mass (catch weight per unit effort) demographic Length,
		D1C3 Population characteristics Parameters	individuals), Mass (catch weight per unit effort) demographic Length, Sex distribution,
	Taurulus bubalis	D1C3 Population characteristics Parameters monitored	individuals), Mass (catch weight per unit effort) demographic Length,





	addressed	Parameters monitored	Abundance (number of individuals),
			Mass (catch weight per unit effort)
		D1C3 Population characteristics	
		Parameters	Length,
		monitored	Sex distribution,
		monitorea	Age distribution
	Perca fluviatilis		Age distribution
	GES criteria	D1C2 Population	abundance
	addressed	Parameters monitored	Abundance (number of individuals),
			Biomass,
			Mass (catch weight per unit effort)
		D1C3 Population	
		characteristics	U 1
		Parameters	Length,
		monitored	Sex distribution,
			Age distribution
	Cottus gobio		
	GES criteria	D1C2 Population	abundance
	addressed	Parameters	Abundance (number of
		monitored	individuals),
			Mass (catch weight per
			unit effort)
		D1C3 Population	i demographic
		characteristics	Longth
		Parameters monitored	Length, Sex distribution,
		monitored	Age distribution
		D1C4 Population	distributional range and
		pattern	
		Parameters	Distribution (spatial)
		monitored	
Commercially e	xploited fish and s	hellfish	
Elements	Clupea harengus	5	
Elements monitored	GES criteria		stock biomass (SSB)
			stock biomass (SSB) Biomass of Spawning
	GES criteria	D3C2 Spawning	Biomass of Spawning Stock (SSB), Abundance (number of
	GES criteria	D3C2 Spawning s Parameters monitored	Biomass of Spawning Stock (SSB), Abundance (number of individuals)
	GES criteria	D3C2 Spawning s Parameters monitored D3C1 Fishing mo	Biomass of Spawning Stock (SSB), Abundance (number of individuals) rtality rate (F)
	GES criteria	D3C2 Spawning s Parameters monitored D3C1 Fishing mo Parameters	Biomass of Spawning Stock (SSB), Abundance (number of individuals)
	GES criteria	D3C2 Spawning : Parameters monitored D3C1 Fishing mo Parameters monitored	Biomass of Spawning Stock (SSB), Abundance (number of individuals) rtality rate (F) Mortality rate
	GES criteria	D3C2 Spawning : Parameters monitored D3C1 Fishing mo Parameters monitored D3C3 Population	Biomass of Spawning Stock (SSB), Abundance (number of individuals) rtality rate (F) Mortality rate age/size distribution
	GES criteria	D3C2 Spawning s Parameters monitored D3C1 Fishing mo Parameters monitored D3C3 Population Parameters	Biomass of Spawning Stock (SSB), Abundance (number of individuals) rtality rate (F) Mortality rate
	GES criteria addressed	D3C2 Spawning : Parameters monitored D3C1 Fishing mo Parameters monitored D3C3 Population	Biomass of Spawning Stock (SSB), Abundance (number of individuals) rtality rate (F) Mortality rate age/size distribution
	GES criteria addressed Salmo salar	D3C2 Spawning s Parameters monitored D3C1 Fishing mo Parameters monitored D3C3 Population Parameters monitored	Biomass of Spawning Stock (SSB), Abundance (number of individuals) rtality rate (F) Mortality rate age/size distribution Age distribution
	GES criteria addressed Salmo salar GES criteria	D3C2 Spawning : Parameters monitored D3C1 Fishing mo Parameters monitored D3C3 Population Parameters monitored D3C2 Spawning s	Biomass of Spawning Stock (SSB), Abundance (number of individuals) rtality rate (F) Mortality rate age/size distribution Age distribution
	GES criteria addressed Salmo salar	D3C2 Spawning : Parameters monitored D3C1 Fishing mo Parameters monitored D3C3 Population Parameters monitored D3C2 Spawning : Parameters	Biomass of Spawning Stock (SSB), Abundance (number of individuals) rtality rate (F) Mortality rate age/size distribution Age distribution stock biomass (SSB) Abundance (number of
	GES criteria addressed Salmo salar GES criteria	D3C2 Spawning : Parameters monitored D3C1 Fishing mo Parameters monitored D3C3 Population Parameters monitored D3C2 Spawning s	Biomass of Spawning Stock (SSB), Abundance (number of individuals) rtality rate (F) Mortality rate age/size distribution Age distribution stock biomass (SSB) Abundance (number of individuals),
	GES criteria addressed Salmo salar GES criteria	D3C2 Spawning : Parameters monitored D3C1 Fishing mo Parameters monitored D3C3 Population Parameters monitored D3C2 Spawning : Parameters	Biomass of Spawning Stock (SSB), Abundance (number of individuals) rtality rate (F) Mortality rate age/size distribution Age distribution stock biomass (SSB) Abundance (number of





	Parameters	Length
	monitored	
Perca fluviatilis	1	
GES criteria	D3C1 Fishing mo	ortality rate (F)
addressed	Parameters monitored	Ratio between annual commercial catch and biomass index (WPUE in monitoring area)
	D3C2 Spawning	stock biomass (SSB)
	Parameters	Abundance (number of
	monitored	individuals),
		Mass (commercial catch weight per unit effort)
	D3C3 Population	age/size distribution
	Parameters	Length,
	monitored	Age distribution; Sex
	monitorea	distribution
Platichthys flesu	c	alstribution
GES criteria	S D3C1 Fishing mo	ortality rate (F)
addressed	Parameters	Ratio between annual
auuresseu	monitored	commercial catch and
	monitoreu	biomass index (WPUE in
		monitoring area)
	D3C2 Snawning	stock biomass (SSB)
	Parameters	Abundance (number of
	monitored	individuals),
	monitoreu	Mass (commercial catch
		weight per unit effort)
	D2C2 Population	age/size distribution
	Parameters	Length,
	monitored	Age distribution; Sex
	monitoreu	distribution
Platichthys soler	ndali	uistribution
GES criteria	D3C1 Fishing mo	vrtality rato (E)
addressed		
audressed	Parameters monitored	Ratio between annual commercial catch and biomass index (WPUE in
		monitoring area)
	D3C2 Spawning	stock biomass (SSB)
	Parameters	Abundance (number of
	monitored	individuals),
		Mass (commercial catch
		weight per unit effort)
	D3C3 Population	age/size distribution
	Parameters	Length,
	monitored	Age distribution; Sex
		aistribution
Sander lucionero	a	distribution
Sander luciopero		
GES criteria	D3C1 Fishing mo	ortality rate (F)
-	D3C1 Fishing mo Parameters	ortality rate (F) Ratio between annual
GES criteria	D3C1 Fishing mo	rtality rate (F) Ratio between annual commercial catch and
GES criteria	D3C1 Fishing mo Parameters	ortality rate (F) Ratio between annual commercial catch and biomass index (WPUE in
GES criteria	D3C1 Fishing mo Parameters monitored	rtality rate (F) Ratio between annual commercial catch and



			Parameters monitored	Abundance (number of individuals), Mass (commercial catch weight per unit effort)
			•	n age/size distribution
			Parameters	Length,
			monitored	Sex distribution; Age distribution
	Coastal ecosyste	em	l	
	Elements	Fish community		
	monitored	GES criteria	D4C2 Abundanc	e across trophic guilds
		addressed	Parameters	Abundance (number of
			monitored	individuals),
				Abundance of coastal fish
				key functional groups (CPUE)
			D4C1 Trophic gu	ild species diversity
			Parameters	Species composition;
			monitored	Trophic level class of fish species
	Extraction of, or	mortality/injury t	to, wild species (b	y commercial and
	recreational fish	ing and other acti	ivities)	-
	Input of litter (so	olid waste matter,	, including micro-s	sized litter)
Spatial zones monitored	Territorial water	rs,		
	Coastal waters (WFD),		
	EEZ (or similar)			
Start(and end) date of the programme	1975-9999			
Frequency of the	Yearly			
monitoring				
Type of monitoring	In-situ sampling	coastal,		
	In-situ sampling			
Data management and		•	•	nvironment and the
access				ed in databases of Estonian
	Marine Institute	at Tartu Universi	ty.	





Indicators to which the	BALEED1C5.1 - The smolt production of Baltic salmon (Salmo salar) relative to
programme contributes	the level of natural smolt production capacity on a riverby river basis,
	BALEED3C2.5 - The smolt production of Baltic salmon (Salmo salar) relative to
	the level of natural smolt production capacity on a riverby river basis,
	BALEED1C3.1 - Mean maximum length across all fish species found in
	monitoring catches (MMLI),
	BALEED3C1.2 - Fishing mortality (F) of subpopulation of spring spawning baltic herring (Clupea harengus membras) in Gulf of Riga,
	BALEED3C1.4 - Ratio between annual commercial catch and biomass index
	(WPUE in monitoring area) of flounder (Platichthys flesus),
	BALEED3C1.5 - Ratio between annual commercial catch and biomass index (WPUE in monitoring area) of perch (Perca fluviatilis),
	BALEED3C1.6 - Ratio between annual commercial catch and biomass index
	(WPUE in monitoring area) of pikeperch (Sander lucioperca),
	BALEED3C2.2 - Spawning stock biomass (SSB) of subpopulation of spring
	spawning baltic herring (Clupea harengus membras) in Gulf of Riga,
	BALEED3C2.4 - Abundance index of sexually mature flounder (Platichthys
	flesus) in monitoring catches,
	BALEED3C2.6 - Abundance index of sexually mature perch (Perca fluviatilis) in
	monitoring catches,
	BALEED3C2.7 - Abundance index of sexually mature female pikeperch (Sander
	lucioperca) in monitoring catches,
	BALEED3C3.1 - 95 % percentile of the length distribution of flounder
	(Platichthys flesus) in monitoring catches,
	BALEED3C3.3 - 95 % percentile of the length distribution of pikeperch (Sander
	lucioperca) in monitoring catches,
	BALEED3C3.2 - Abundance index of large(TL>250 mm) perch (Perca fluviatilis)
	in monitoring catches,
	BALEED4C1.1 - Fish community trophic index, BALEED4C2.1 - Abundance of coastal Fish key functional groups: abundance of
	cyprinids in monitoring catches,
	BALEED4C2.2 - Abundance of coastal Fish key functional groups: abundance of
	piscivores in monitoring catches,
	BALEED1C2.5 - The abundance of European eel (Anguilla anguilla) in Estonian
	coastal waters - new planned indicator,
	BALEED1C4.5 - Distributional range of spined loach (Cobitis taenia) in Estonian
	coastal waters - new planned indicator,
	BALEED1C4.6 - Distributional range of European bullhead (Cottus gobio) in
	Estonian coastal waters - new planned indicator,
	BALEED1C4.7 - Distributional range of European whitefish (Coregonus
	lavaretus) in Estonian coastal waters - new planned indicator
Contact	Ministry of the Environment: Elo Rasmann (elo.rasmann@envir.ee);
	University of Tartu, Estonian Marine Institute: Redik Eschbaum,
	redik.eschbaum@ut.ee, Lauri Saks, lauri.saks@ut.ee.
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).





MONITORING	BALEE-D010/03	-8_FishOffshore -	Off-shore fish		
PROGRAMME	5766-2010403	5_11511011311012-			
Introduction/overview of	The aim of the p	programme is to n	nonitor the status	of the commercially	
programme		-		the offshore areas of the	
	Estonian marine	waters. The bion	nass and fishing m	ortality of stocks are	
	assessed. It prov	/ides data to mon	itoring strategy "S	SD1.4 Biodiversity – Fish"	
	and "SD3-commercially exploited fish". Monitoring is conducted annually. T program is regionally coordinated via ICES and the ICES monitoring manual i				
	followed.				
		•	-	ng programmes in the	
		•	,	ndance and/or biomass;	
	-	- mortality/injury	rates from fisheri	es (targeted and/or	
Durnasa of programma	incidental).	tata and impacts			
Purpose of programme		itate and impacts, s causing the pres			
	Effectiveness of		sures,		
Other EU or international			Annual Plan (Con	nmon Fisheries Policy)	
policies to which				interies i enegy	
programme contributes					
Monitoring details	For monitoring of	offshore fish spec	ies the hydro-aco	ustic surveys and scientific	
	trawlings are ca	rried out. In addit	ion, ICES coordina	ated cruises (BIAS, BITS) are	
			nitted to the ICES		
Ecosystem components,				y commercial and	
anthropogenic pressures		ing and other act			
and activities monitored		cploited fish and s			
	Elements monitored	Clupea harengu: GES criteria		stack biomass (SSB)	
	monitored	addressed	Parameters	stock biomass (SSB) Biomass of Spawning	
		addressed	monitored	Stock (SSB),	
			monitored	Abundance (number of	
				individuals)	
			D3C1 Fishing mo	ortality rate (F)	
			Parameters	Mortality rate	
			monitored		
				n age/size distribution	
				Age distribution	
		Constitute	monitored		
		Sprattus sprattu GES criteria		stock biomass (SSB)	
		addressed	Parameters	Biomass of Spawning	
		uuresseu	monitored	Stock (SSB),	
			monitored	Abundance (number of	
				individuals)	
			D3C1 Fishing mo		
			Parameters	Mortality rate	
			monitored		
			D3C3 Population	n age/size distribution	
			Parameters	Age distribution	
			monitored		
	Pelagic shelf fish		_		
	Elements	Clupea harengu		roto from insident-l	
	monitored	GES criteria addressed		rate from incidental	
		auuresseu	by-catch Parameters	Mortality rate	
			monitored	wortanty rate	
			D1C2 Population	n abundance	
				i asunuunee	





*				
			Parameters	Abundance (number of
			monitored	individuals),
				Biomass
			D1C3 Population demographic	
			characteristics	
			Parameters	Age distribution
			monitored	
		Sprattus sprattu		
		GES criteria	D1C2 Population	
		addressed	Parameters	Biomass,
			monitored	Abundance (number of individuals)
			D1C1 Mortality by-catch	rate from incidental
			Parameters monitored	Mortality rate
			D1C3 Population	n demographic
			characteristics	
			Parameters	Age distribution
			monitored	
Spatial zones monitored	Territorial water	s,		
	EEZ (or similar)			
Start(and end) date of the	1992-9999			
programme				
Frequency of the	Yearly			
monitoring				
Type of monitoring	In-situ sampling			
Data management and		-	-	nvironment and the
access	-			ed in databases of Estonian
		at Tartu Univers		
Indicators to which the				bpopulation of spring
programme contributes			iarengus membras	s) in Estonian marine areas
	(ICES subregions			ltie en et (Cenetter en etter
		pawning stock b	omass (SSB) of Ba	ltic sprat (Sprattus sprattus
	balticus),	iching mortality	(E) of subpopulation	on of spring spawning baltic
				arine areas (ICES subregions
	SD 27-29, 32),	narengus membr		
		ishing mortality	(F) of Baltic sprat (Sprattus sprattus balticus)
Contact			Rasmann (elo.rasi	
			ine Institute: Redi	
	-		s, lauri.saks@ut.e	
References				hister of the environment
	and available at			
		vir.ee/et/eesmar	gid-tegevused/me	erekeskkonna-kaitse/meres
	trateegia			,
		nvir.ee/sites/defa	ult/files/mereala	_seireprogramm_2021_202
	6.pdf) (in Estonia		-	





MONITORING PROGRAMME	BALEE-D010403-9_FishMigratory - Migratory fish
Introduction/overview of	The programme is no longer in place as a separate programme, monitoring
programme	will proceed under the programme "Coastal fish"
	(BALEE-D010403-7_FishCoastal)



MONITORING		10 Phytop Phyt	toplankton spacia	s composition, abundance		
MONITORING PROGRAMME	and biomass	-10_Phytop - Phy	topialikton specie	s composition, abundance		
Introduction/overview of		programme is to n	nonitor phytoplan	kton communities (species		
programme		-		cle of dominant groups) in		
	the water column. It provides data to monitoring strategy "SD5 –					
	Eutrophication", as well as "SD1.6 Biodiversity – pelagic habitats", "SD4/SD1					
	-			Non-indigenous species".		
				iterion D5C2, Descriptor		
				C1. Data are gathered to		
		-		onmental status in coastal		
				Sea (HELCOM divisions) in		
				ed yearly or at least once in		
			-	t the designated monitoring		
	-		-	ody and 11 in the Estonian		
				ated via HELCOM and the		
				early reported to the		
		-		(by 1 March) and ICES		
			-	ndicator of seasonal		
	succession of do	minating phytopl	ankton groups ar	e still missing for some		
				arine area), mainly due to		
	the lack of data corresponding to the set criteria.					
	The programme is essentially the same as in 2014, only minor					
	some monitoring stations and frequencies were undertaken. The programme corresponds to the following monitoring programmes in t					
	indicative list: Pelagic habitats – community characteristics.					
Purpose of programme		Environmental state and impacts				
Other EU or international	Water Framewo					
policies to which		oring programme				
programme contributes	Monitoring programme targeting at national legislation Phytoplankton samples are collected with a bathometer at water depths of 1,					
Monitoring details		-		-		
	_			prophyll a. An integrated lected from fixed depths.		
				a portion is poured into a		
				ical for further transport,		
	-			As part of the Ferrybox		
	-			ic sampler from depths of		
	_					
	4-5 m from a predefined location on the route of the liner. Phytoplankton is analysed according to the relevant international standard methods (EN 16695:					
	2015, HELCOM Monitoring Manual).					
	In 3 coastal water bodies sampling is carried out annually 10-12 times per year					
		-	-	ly - 10-12 times every third		
	· · ·	·· ·		rotation 6 times per year		
	(from June to Se	eptember) at least	once during a 6-y	/ear period. In the		
	off-shore areas the research vessel-based monitoring is conducted 5 times per					
	year (from April to October) and 12 times every year in frames of Ferrybox					
	monitoring.					
Ecosystem components,	HabPelOther	1				
anthropogenic pressures	Elements	Phytoplankton of		ommunities		
and activities monitored	monitored	GES criteria	D1C6 Pelagic ha			
	addr	addressed	Parameters	Species composition;		
			monitored	Abundance (number of		
	Constal a			individuals); Biomass		
	Coastal ecosyste					
	Elements monitored	Primary produce GES criteria		uild species divorsity		
	monitored	addressed		ild species diversity Species composition		
		auuresseu	Parameters	LOUGOS COMOOSITION		
			monitored			





			D4C2 Abundance across trophic guilds		
			Parameters	Abundance (number of	
			monitored	individuals),	
				Biomass	
Spatial zones monitored	Coastal waters (WFD),			
	Territorial water	s,			
	EEZ (or similar)				
Start(and end) date of the	1993-9999				
programme					
Frequency of the	Yearly				
monitoring					
Type of monitoring	In-situ sampling coastal,				
	In-situ sampling	offshore			
Data management and	Data are yearly r	reported to the na	ational environme	ntal monitoring database	
access	KESE (by 1 Marc	h) and ICES (HELC	OM Combine).		
Indicators to which the	BALEED5C2.2 - Summer phytoplankton wet weight biomass,				
programme contributes	BALEED1C6.1 - Seasonal succession of dominating phytoplankton groups				
Contact	Estonian Enviror	nment Agency: An	astasiia Kovtun-K	ante,	
	anastasiia.kovtu	n-kante@envir.ee	e; Arthur Kivi, arth	ur.kivi@envir.ee	
References	The monitoring	programme is app	proved by the min	ister of the environment	
	and available at				
	https://www.en	vir.ee/et/eesmar	gid-tegevused/me	erekeskkonna-kaitse/meres	
	trateegia				
	(https://www.er	nvir.ee/sites/defa	ult/files/mereala_	seireprogramm_2021_202	
	6.pdf) (in Estonia	an).			



MONITORING	BALEE-D010405	-11 Zoonl - Zoon	lankton species co	mposition, abundance and	
PROGRAMME	biomass	-11_20001-2000	lankton species co	inposition, abundance and	
Introduction/overview of programme	The aim of the programme is to monitor species composition, abundance and biomass of mesozooplankton. It provides data to monitoring strategy "SD1.6 Biodiversity – pelagic habitats", as well as "SD2-Non-indigenous species" and "SD4/SD1 Food webs / Biodiversity – ecosystems". The programme is related to GES Descriptors D1, Criterion D1C6, Description D2 Criterions D2C1 and D2C2 and Descriptor D4 Criterion D4C2. Data are gathered to assess the state of the marine environment and environmental status in three coastal water bodies and all off-shore sub-basins of the Baltic Sea (HELCOM sub-divisions) as well as pressures from/by non-indigenous species. Monitoring is conducted yearly with a frequency 10 times a year at the designated coastal monitoring stations (3 stations in each coastal water body) and with frequency twice a year for 16 stations in the Estonian off-shore areas. The program is regionally coordinated via HELCOM combine). Mesozooplankton Mean Size Total Stock indicator is developed by HELCOM on the basis of mesozooplankton data. The threshold values for the indicator have been internationally agreed for some sub-basins, but not for the Gulf of Riga yet. The programme is essentially the same as in 2014, only minor changes in some monitoring stations and frequencies were undertaken. The programme corresponds to the following monitoring programmes in the				
Purpose of programme	indicative list: Pelagic habitats – community characteristics. Environmental state and impacts,				
		marine environm	nent		
Other EU or international	Habitats Directiv				
policies to which		oring programme			
programme contributes			at national legisla		
Monitoring details Ecosystem components, anthropogenic pressures and activities monitored	The samples are collected by means of vertical hauls using a Juday or WP-2 net with 0,1 mm mesh size. The collected samples are preserved in a formaldehyde solution to microscopic analysis to be performed in a laboratory. HabPelOther Elements Zooplankton communities GES criteria D1C6 Pelagic habitat condition addressed Parameters Monitored Species composition; Abundance (number of individuals); Biomass				
	Coastal ecosyste	em			
	Elements	All trophic guild	S		
	monitored	GES criteria addressed	D4C1 Trophic gu Parameters monitored	ild species diversity Species composition e across trophic guilds Abundance (number of individuals), Biomass	
		Secondary prod	ucers		
		GES criteria		ild species diversity	
		addressed	Parameters monitored	Species composition	
			D4C2 Abundanc Parameters monitored	e across trophic guilds Abundance (number of individuals), Biomass	





Spatial zones monitored	Territorial waters,
	Coastal waters (WFD),
	EEZ (or similar)
Start(and end) date of the	1993-9999
programme	
Frequency of the	Yearly
monitoring	
Type of monitoring	In-situ sampling coastal,
	In-situ sampling offshore
Data management and	Data are yearly reported to the national environmental monitoring database
access	KESE (by 1 March) and ICES (HELCOM Combine).
Indicators to which the	BALEED1C6.2 - Zooplankton mean size and total stock
programme contributes	
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).



MONITORING	BALEE-D010/06-	12 SeabedHabit	at - Seabed habits	ats – community	
				ats community	
MONITORING PROGRAMME Introduction/overview of programme Purpose of programme Other EU or international policies to which programme contributes Monitoring details	characteristics The aim of the p (presence, distril the sediment an loose Furcellaria strategy "SD6/SI as well as "SD5 – D6, Criterion D60 gathered to asse status in coastal (HELCOM sub-di conducted yearl once a year at th regionally coord monitoring many programme. Dat database KESE a The programme commercial stoc BALEE-D010406- The programme indicative list: – abundance and Environmental si Water Framewo Habitats Directive Seabed habitats monitoring of ph Habitat Directive ecological belts a coverage, specie sediment type. E bottom). Within the thickness of in the near-botto and assessment development. Monitoring of se of the presence a	rogramme is to n bution, abundance d near-bottom w lumbricalis comm D1 Sea-floor integ - Eutrophication" C5; Descriptor D5 siss spatial variabil water bodies and visions) in respon y, bi-annually or a be designated mo inated via HELCO ual is followed co a are reported to nd ICES (HELCOW has been change k of Furcellaria lu -17_ComStockFur corresponds to the Seabed habitats - d/or biomass; Sea tate and impacts rk Directive, re monitoring comb a biomass samples a bundance and Biomass samples a the monitoring o algae layer, Secch on layer are also of habitat types 1 abed habitats of and abundance o th limit within a t	e, biomass of the ater layer; distrib nunity). It provide rity/Biological div. The programme Criterions D5C5, ity, temporal tren d off-shore sub-ba- se to pressure leve at least once in six nitoring stations. M (soft-bottom h nducting certain of the national env l Combine). d since 2014 by a mbricalis (former cellaria). the following mon - community chan abed habitats - dis bines different mo thos. The monitor cludes both, visua ng in representat coverage are reg are collected by d f commercial stoo in depth, tempera measured. The m 130, 1150 and 12 coastal water boo f all species, cove ransect. The obse	a of benthic habitats e species; characteristics of ution characteristics of es data to monitoring versity – benthic habitats" is related to GES Descriptor D5C7 and D5C8. Data are nds and environmental asins of the Baltic Sea vels. Monitoring is (years with a frequency of The program is partly abitats) and the HELCOM elements of the ironmental monitoring dding the part about the sub-programmes in the racteristics; Benthic species stribution and extent.	
	different transect depths up to macrophyte depth limit both by visual observation or using underwater video remote observation method once a year (from July to August). Quantitative samples are collected with the 20x20 metal frame and deep-freezed for laboratory analysis (excluding Furcellaria lumbricalis stock samples). In the laboratory, the species composition and species wet weight (red algae stock) or dry weight (seabed habitats and habitat types) per 1m2 are determined. The monitoring and data collection is partly coordinated by HELCOM and for				
	softbottom habi				
Ecosystem components,	Litter in the envi				
anthropogenic pressures and activities monitored	Elements	Macrolitter (all)	D10C1 ittan /	(cluding micro litter)	
and activities monitored	monitored	GES criteria		cluding micro-litter)	
		addressed	Parameters	Amount on seabed	
		1	monitored		
	Benthic broad ha	abitats			





Elements	Benthic habitats	1		
monitored	GES criteria	D6C5 Benthic ha		
	addressed	Parameters	Extent,	
		monitored	Species composition;	
			Presence; Biomass;	
			Maximum depth; Relative	
			abundance within	
			community	
Benthic broad ha	abitats			
Elements		and biogenic reef	:	
monitored	GES criteria	D6C5 Benthic ha		
monitored	addressed	Parameters	Species composition;	
	audresseu	monitored		
		monitoreu	Presence; Biomass; Maximum donth: Polativo	
			Maximum depth; Relative	
			abundance within	
			community	
	Infralittoral sand		1 m n 1 m n	
	GES criteria	D6C5 Benthic ha		
	addressed	Parameters	Species composition;	
		monitored	Presence; Biomass;	
			Maximum depth; Relative	
			abundance within	
			community	
	Infralittoral mud			
	GES criteria	D6C5 Benthic ha		
	addressed	Parameters	Species composition;	
		monitored	Presence; Biomass;	
			Maximum depth; Relative	
			abundance within	
			community	
	Infralittoral mixe	d sediment		
	GES criteria	D6C5 Benthic habitat condition		
	addressed	Parameters	Species composition;	
		monitored	Presence; Biomass;	
			Maximum depth; Relative	
			abundance within	
			community	
	Infralittoral coars	se sediment	•	
	GES criteria	D6C5 Benthic ha	bitat condition	
	addressed	Parameters	Species composition;	
		monitored	Presence; Biomass;	
		monitored	Maximum depth; Relative	
			abundance within	
			community	
	Circalittoral rock	and biogenic ree	-	
	GES criteria	D6C5 Benthic ha		
	addressed			
	addressed	Parameters	Species composition;	
		monitored	Presence; Biomass;	
			Maximum depth; Relative	
			abundance within	
			community	
	Circalittoral sand			
	GES criteria	D6C5 Benthic ha	bitat condition	





		addressed Circalittoral mud GES criteria addressed	Parameters monitored D6C5 Benthic ha Parameters monitored	Species composition; Presence; Biomass; Maximum depth; Relative abundance within community bitat condition Species composition; Presence; Biomass; Maximum depth; Relative abundance within
				community
		Circalittoral mixe		hitet equalities
		GES criteria	D6C5 Benthic ha	
		addressed	Parameters monitored	Species composition; Presence; Biomass; Maximum depth; Relative abundance within community
		Circalittoral coar	se sediment	
		GES criteria	D6C5 Benthic ha	bitat condition
		addressed	Parameters monitored	Species composition; Presence; Biomass; Maximum depth; Relative abundance within community
Spatial zones monitored	Coastal waters (WFD).		
	Territorial water			
	EEZ (or similar)	,		
Start(and end) date of the programme	1974-9999			
Frequency of the monitoring	Other (specify)			
Type of monitoring	In-situ sampling In-situ sampling Visual observatio Remote surveilla	offshore, on,		
Data management and access	Gathered data a database KESE.	re submitted to th	ne national enviro	nmental monitoring





Indicators to which the	BALEED6C5.1 - Quality of habitat type reefs (code 1170),
programme contributes	BALEED6C5.2 - Quality of habitat type mudflats and sandflats (code 1140),
	BALEED6C5.3 - Quality of habitat type sandbanks (code 1110),
	BALEED6C5.4 - Quality of habitat type estuaries (code 1130),
	BALEED6C5.5 - Quality of habitat type large shallow inlets and bays (code
	1160),
	BALEED6C5.6 - Quality of habitat type coastal lagoons (1150),
	BALEED6C5.7 - The extent of adverse effects from anthropogenic pressures on
	the condition of the habitat type infralittoral rock and biogenic reef.,
	BALEED6C5.8 - The extent of adverse effects from anthropogenic pressures on
	the condition of the habitat type infralittoral sand.,
	BALEED6C5.9 - The extent of adverse effects from anthropogenic pressures on
	the condition of the habitat type infralittoral mud.,
	BALEED6C5.10 - The extent of adverse effects from anthropogenic pressures
	on the condition of the habitat type infralittoral mixed sediment.,
	BALEED6C5.11 - The extent of adverse effects from anthropogenic pressures
	on the condition of the habitat type infralittoral coarse sediment.,
	BALEED6C5.12 - The extent of adverse effects from anthropogenic pressures
	on the condition of the habitat type circalittoral rock and biogenic reef.,
	BALEED6C5.13 - The extent of adverse effects from anthropogenic pressures
	on the condition of the habitat type circalittoral sand.,
	BALEED6C5.14 - The extent of adverse effects from anthropogenic pressures
	on the condition of the habitat type circalittoral mud.,
	BALEED6C5.15 - The extent of adverse effects from anthropogenic pressures
	on the condition of the habitat type circalittoral mixed sediment.,
	BALEED6C5.16 - The extent of adverse effects from anthropogenic pressures
	on the condition of the habitat type circalittoral coarse sediment.,
	BALEED6C5.18 - The state of loose-lying red algae community in Kassari Bay.
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).



MONITORING	BALEE-D0104060	15-13 SeabedVed	retation7one - Phy	ytobenthic communities	
PROGRAMME	BALLE DOIO4000	55 15_5cabeave		y cobentine communities	
Introduction/overview of programme	The aim of the programme is to monitor phytobenthic communities (species composition, coverage, abundance, biomass, depth distribution) along the depth gradient. It provides data to monitoring strategy "SD5 – Eutrophication", as well as "SD6/SD1 Sea-floor integrity/Biological diversity – benthic habitats" and "SD2– Non-indigenous species". The programme is related to GES Descriptor D5, Criterion D5C6 and Criterion D5C7, Descriptor D6, Criterion D6C5. Data are gathered to assess spatial variability, temporal trends and environmental status in coastal water bodies and off-shore sub-basins of the Baltic Sea (HELCOM sub-divisions) in response to pressure levels. Monitoring is conducted in coastal waters yearly or at least once per six years with a frequency once a year at the designated monitoring stations (at least 3 stations in each coastal water body). The program is regionally partly coordinated via HELCOM and the HELCOM monitoring manual is followed (soft-bottom habitats). Data are yearly reported to the national environmental monitoring database KESE (by 1 March). The programme corresponds to the following monitoring programmes in the indicative list: Seabed habitats – community characteristics; Benthic species				
	– abundance and			acteristics, bentine species	
Purpose of programme	Environmental s	tate and impacts,			
Other EU or international	Pressures in the marine environment Water Framework Directive,				
policies to which	Habitats Directiv				
programme contributes	Monitoring prog	ramme targeting	at national legisla	ition	
	The presence of species, total coverage and maximum distribution depth are registered during visual observations or using underwater video remote observation method. In the monitoring site, the total coverage of phytobenthos, species presence and their coverage, as well as sediment typ are observed. Quantitative samples are collected by a diver with the 20x20 metal frame (in triplicate) and deep-freezed for laboratory analysis. In the laboratory, the species composition and dry weight of each species per 1m2 are determined. In frames of coastal waters monitoring, the total nitrogen, total phosphorus (6x per year) and PAR and water temperature are also registered (continuous measurements during 3-month period) in each monitoring area as supplementary information.				
Ecosystem components,		of non-indigenous	s species		
anthropogenic pressures	Elements	Not Applicable			
and activities monitored	monitored	GES criteria addressed	D2C1 Newly-intr Parameters monitored D2C2 Establishe Parameters monitored	Presence, Abundance (number of individuals); Biomass d NIS Abundance (number of individuals),	
				Biomass	
	Litter in the envi Elements	ronment Macrolitter (all)			
	monitored	GES criteria	D10C1 Litter (ex	cluding micro-litter)	
		addressed	Parameters monitored	Amount on seabed	
	Eutrophication			· · · · · · · · · · · · · · · · · · ·	
	Elements monitored	Benthic habitats GES criteria addressed	- macrophyte co D5C7 Macrophy habitats	mmunities te communities of benthic	





Species composition; Presence; Relative abundance within community; Biomass; Maximum depth
macroalgae
inistic macroalgae of benthic
Species composition; Presence; Relative abundance within community; Biomass; Maximum depth
eef
habitat condition
Species composition; Presence; Relative abundance within community; Biomass; Maximum depth
habitat condition
Species composition; Presence; Relative abundance within community; Biomass;
Maximum depth
Species composition; Presence; Relative abundance within community; Biomass;
Maximum depth
habitat condition Species composition; Presence; Relative abundance within community; Biomass; Maximum depth
habitat condition
Species composition; Presence; Relative abundance within community; Biomass; Maximum depth
eef
habitat condition Species composition; Presence; Relative abundance within community; Biomass; Maximum depth





	GES crite		
			thic habitat condition
	addresse	d Paramete monitore	
	Circalitto	ral mud	
	GES crite	ria D6C5 Ber	thic habitat condition
	addresse	d Paramete	rs Species composition;
		monitore	· · · ·
	Circalitto	ral mixed sedimer	nt
	GES crite	ria D6C5 Ben	thic habitat condition
	addresse	d Paramete monitore	· · · · · · · · · · · · · · · · · · ·
	Circalitto	ral coarse sedime	nt
	GES crite	ria D6C5 Ben	thic habitat condition
	addresse	d Paramete	rs Species composition;
		monitore	abundance within community; Biomass;
	Deuthie h		Maximum depth
	Benthic h GES crite		thic habitat condition
	addresse		d Species composition; d Presence; Relative abundance within community; Biomass;
			Maximum depth
	astal waters (WFD)		
programme	95-9999		
monitoring	arly		
	situ sampling coastal,		
	ual observation,		
	mote surveillance	d to the national (environmental monitoring
	thered data are reporte tabase KESE.		
	LEED5C6.1 - Proportion	of opportunistic s	necies
programme contributes BA			benthos index (EPI1, EPI2,
		ter on seafloor in:	coastal sea [natural areas],
BA	LEED2C1.1 - Number of	new non-indigenc	ous species,
	LEED2C2.2 - Biomass of	-	-
Contact Est	onian Environment Age	ncy: Anastasiia Ko	vtun-Kante,
	astasiia.kovtun-kante@e		vi, arthur.kivi@envir.ee
an		e is approved by t	he minister of the environment
tra (ht 6.p	e monitoring programm d available at	esmargid-tegevus	sed/merekeskkonna-kaitse/meres



MONITORING	BALEE-D010406	05-14_Macrozool	oenthos - Macroz	oobenthos
PROGRAMME				
Introduction/overview of programme	(species composed at a to monitor Sea-floor integrines in the sea sea sea sea sea sea sea sea sea se	sition, abundance ing strategy "SD5 ty/Biological dive species" and "SD e programme is r criteria D2C1, D2C D6, Criterion D6C oral trends and e b-basins of the Bi Monitoring is con y once a year at th coastal water boo regionally coordin ual is followed. Th nonitoring databa is essentially the g stations and fre corresponds to th Seabed habitats -	and biomass) on – Eutrophication' rsity – benthic ha 4/SD1 Food webs elated to GES Des 2 and D2C3, Desc 5. Data are gather nvironmental stat altic Sea (HELCOM ducted yearly or he designated mo dy and 11 in the E ated via HELCOM he data are yearly use KESE (by 1 Ma same as in 2014, quencies were un he following mon	5 / Biodiversity – scriptor D5, Criterion D5C8, criptor D4, Criterion D4C2 red to assess spatial tus in coastal water bodies A division) in response to at least once in six years onitoring stations (at least 3 stonian off-shore areas). I and the HELCOM reported to the national mrch) and ICES (HELCOM only minor changes in
Purpose of programme		tate and impacts,		
		marine environm	ent	
Other EU or international	Water Framewo			
policies to which	Habitats Directiv			
programme contributes		gramme targeting		
Monitoring details	designated coas other coastal wa sampling. The se near-bottom lay registered as su collected in tripl species composi (per 1 m2) is det For observation designated trans sample per each gradient.	tal waters and in aters. Van Veen of ediment type, con er, concentration oplementary infor icate and frozen f tion, abundance of cermined. of maximum dep sects are monitor	rotation at least of Ekman type grad centration of diss of H2S, water ten mation at the san or laboratory ana of species and dry th distribution of ed in the open-se	ar in off-shore areas and once in a 6-year period from o samplers are used for solved oxygen in the mperature and salinity are mpling site. Every sample is alyse. In the laboratory, the y weight of every species Limecola balthica, three a area; samples (one nce with the transect depth
Ecosystem components, anthropogenic pressures	Eutrophication Elements	Repthic habitate	- macrobenthic d	communities
and activities monitored	monitored	GES criteria addressed		Abundance (number of individuals), Extent, Species composition; Biomass
	Benthic broad h	abitats		
	Elements	Benthic habitate	; 	
	monitored	GES criteria	D6C4 Benthic ha	abitat extent
		addressed	Parameters monitored	Extent
			D6C5 Benthic ha	abitat condition





	Parameters	Species composition;
	monitored	Abundance; Biomass
	and biogenic reef	
GES criteria	D6C4 Benthic ha	
addressed	Parameters	Extent
	monitored	
	D6C5 Benthic ha	
	Parameters	Species composition;
	monitored	Abundance; Biomass
Infralittoral sand		
GES criteria	D6C4 Benthic ha	bitat extent
addressed	Parameters	Extent
	monitored	
	D6C5 Benthic ha	
	Parameters	Species composition;
	monitored	Abundance; Biomass
Infralittoral mud		
GES criteria	D6C4 Benthic ha	bitat extent
addressed	Parameters	Extent
	monitored	
	D6C5 Benthic ha	bitat condition
	Parameters	Species composition;
	monitored	Abundance; Biomass
Infralittoral mixe	ed sediment	
GES criteria	D6C4 Benthic ha	bitat extent
addressed	Parameters	Extent
	monitored	
	D6C5 Benthic ha	bitat condition
	Parameters	Species composition;
	monitored	Abundance; Biomass
Infralittoral coar	se sediment	1
GES criteria	D6C4 Benthic ha	bitat extent
addressed	Parameters	Extent
	monitored	
	D6C5 Benthic ha	bitat condition
	Parameters	Species composition;
	monitored	Abundance; Biomass
Circalittoral rock	and biogenic ree	
GES criteria	D6C4 Benthic ha	
addressed	Parameters	Extent
	monitored	
	D6C5 Benthic ha	bitat condition
	Parameters	Species composition;
	monitored	Abundance; Biomass
Circalittoral sand	1	
GES criteria	D6C4 Benthic ha	bitat extent
addressed	Parameters	Extent
	monitored	
	D6C5 Benthic ha	bitat condition
	Parameters	Species composition;
		Abundance; Biomass
	monitored	Abulluance, Dividass
Circalittoral mud	monitored	Abundance, biomass
Circalittoral mud		· ·
GES criteria	D6C4 Benthic ha	bitat extent
		· ·





			Dararatan	Coopies comparint
			Parameters monitored	Species composition; Abundance; Biomass
		Circalittoral mix		ADUITUATILE, DIUTTASS
		GES criteria	D6C4 Benthic ha	hitat extent
		addressed	Parameters	Extent
		addressed	monitored	LAtent
			D6C5 Benthic ha	bitat condition
			Parameters	Species composition;
			monitored	Abundance; Biomass
		Circalittoral coa		Abditaditec, Biolitass
		GES criteria	D6C4 Benthic ha	bitat extent
		addressed	Parameters	Extent
			monitored	
			D6C5 Benthic ha	bitat condition
			Parameters	Species composition;
			monitored	Abundance; Biomass
	Coastal ecosyste	em		
	Elements	Sub-apex demei	sal predators	
	monitored	GES criteria		e across trophic guilds
		addressed	Parameters	Abundance (number of
			monitored	individuals),
				Biomass
			D4C1 Trophic gu	ild species diversity
			Parameters	Species composition
			monitored	
		Deposit-feeders		
		GES criteria	D4C2 Abundanc	e across trophic guilds
		addressed	Parameters	Abundance (number of
			monitored	individuals),
				Biomass,
				Extent
				ild species diversity
			Parameters	Species composition
			monitored	
	Input or spread	of non-indigenou	s species	
	Elements	Not Applicable		
	monitored	GES criteria	D2C1 Newly-intr	
		addressed	Parameters	Presence,
			monitored	Abundance (number of
				individuals); Biomass
			D2C2 Establishe	
			Parameters	Abundance (number of
			monitored	individuals),
				Biomass
			D2C3 Adverse et	
			Parameters	Abundance (number of
			monitored	individuals); Biomass
patial zones monitored	Coastal waters (-		
	Territorial water	s,		
	EEZ (or similar)			
tart(and end) date of the	1991-9999			
programme				
requency of the	Yearly			
nonitoring	la aite l'			
ype of monitoring	In-situ sampling			
	In-situ sampling	onsnore		





Data management and	Data are yearly reported to the national environmental monitoring database
Data management and	Data are yearly reported to the national environmental monitoring database
access	KESE (by 1 March) and ICES (HELCOM Combine).
Indicators to which the	BALEED5C8.1 - Zoobenthos community index,
programme contributes	BALEED5C8.3 - Depth limit of Baltic macoma (Limecola balthica),
	BALEED2C1.1 - Number of new non-indigenous species,
	BALEED2C2.2 - Biomass of alien benthic invertebrate species,
	BALEED2C3.2 - Contribution of non-indigenous species in macrozoobenthic
	community,
	BALEED2C3.3 - Biopollution level (BPL)
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).



MONITORING PROGRAMME	BALEE-D010406 characteristics	07-15_SeabedPhy	/sChemGeol - Sea	bed physical and chemical		
Introduction/overview of		programme is to c	ollect data on the	e physical and chemical		
programme		-				
programme	characteristics of the seabed, such as bathymetry, seabed substrate and morphology, as well as organic matter content in the sediments. Hydrographic					
	surveying is the task of the Hydrographic service and data are made available					
	via Maritime Administration. The seabed mapping process is continuous and					
	the whole sea area is planned to be covered by 2030. Data on the seabed					
	substrate and morphology is collected by project-based activities, and the distributions of seabed substrate and morphology in the Estonian waters are					
	available at the	Geological Survey	and Land Board	as well via the EMODnet		
	Geology portal.	Organic matter co	ontent is monitor	ed at the macrozoobenthos		
	stations and tra	nsects in the fram	es of the nationa	l environmental monitoring		
	programme ope	en sea monitoring	programme. Data	a on organic matter are		
	reported every	year by 1 March a	nd are made avai	ilable via environmental		
	database KESE.					
	Monitoring is no	ot HELCOM region	ally coordinated,	partly coordinated in		
	_	ith EMODnet Geo	-			
				itoring programmes in the		
				emical characteristics.		
Purpose of programme		state and impacts,				
		marine environm				
Other EU or international	Water Framewo	ork Directive,				
policies to which	Habitats Directi	ve,				
programme contributes	Monitoring prog	gramme targeting	at national legisl	ation		
Monitoring details	Monitoring is pe	erformed by the N	1aritime Administ	tration and the Geological		
	Survey of Eston	Survey of Estonia as fulfilment of state obligations and project-based				
	activities. The o	activities. The organic matter content of bottom sediments is determined				
	within the national environmental monitoring programme. Bathymetry surveys are performed with sonar. The seabed mapping is done					
	using geophysical equipment – a seismic-acoustic profiler (operating frequency 0-450 Hz), a low-frequency acoustic profiler (24 kHz), an					
	echo-sounder, s	ide-scan sonar an	d probe tools. Fo	r determination of the		
	organic matter	content in sedime	nt samples, loss o	on ignition method is used.		
	The bathymetrie	c measurements a	re being perform	ed continually unless the		
	entire Estonian	marine area is cov	vered. The data o	n the seabed substrate and		
	morphology is a	lso collected by p	roject-based activ	vities. Organic matter		
	sampling is perf	ormed annually o	nce a year.			
Ecosystem components,	Benthic broad h	abitats				
anthropogenic pressures	Elements	Benthic habitate	;			
and activities monitored	monitored	GES criteria	D6C5 Benthic h	abitat condition		
		addressed	Parameters	Organic matter		
			monitored	concentration in		
				sediment (total)		
		Infralittoral rock	and biogenic ree			
		GES criteria	-	abitat condition		
		addressed	Parameters	Organic matter		
			monitored	concentration in		
				sediment (total)		
		Infralittoral sand	d			
		GES criteria		abitat condition		
	addressed		Parameters	Organic matter		
		auuresseu	monitored	concentration in		
				sediment (total)		
		Infralittoral muc	1			
		GES criteria		abitat condition		
		SES SILCIU	Joes Bennie II			





	addressed	Parameters	Organic matter
		monitored	concentration in
			sediment (total)
	Infralittoral mixe		
	GES criteria	D6C5 Benthic ha	
	addressed	Parameters	Organic matter
		monitored	concentration in
			sediment (total)
	Infralittoral coar		
	GES criteria	D6C5 Benthic ha	
	addressed	Parameters	Organic matter
		monitored	concentration in
			sediment (total)
		and biogenic ree	
	GES criteria	D6C5 Benthic ha	
	addressed	Parameters	Organic matter
		monitored	concentration in
			sediment (total)
	Circalittoral sand		
	GES criteria	D6C5 Benthic ha	
	addressed	Parameters	Organic matter
		monitored	concentration in
		-	sediment (total)
	Circalittoral muc		
	GES criteria	D6C5 Benthic ha	
	addressed	Parameters	Organic matter
		monitored	concentration in
			sediment (total)
	Circalittoral mix		
	GES criteria	D6C5 Benthic ha	
	addressed	Parameters	Organic matter
		monitored	concentration in
			sediment (total)
	Circalittoral coa		
	GES criteria	D6C5 Benthic ha	
	addressed	Parameters	
		monitored	concentration in
lucione de la companya de la			sediment (total)
Hydrographical			
Elements	Bathymetry		af hundre and 12 1
nonitored	GES criteria		of hydrographical
	addressed	conditions	
		Parameters	Bathymetric depth
		monitored	
		e and morpholog	
	GES criteria		of hydrographical
	addressed	conditions	
		Parameters	Physical structure of
		monitored	habitat (e.g. sediment
			characteristics,
			topographic structure)
Physical loss of			
Physical loss of Elements	the seabed Not Applicable GES criteria		





		addressed	Parameters monitored	Bathymetric depth; Physical structure of habitat (e.g. sediment characteristics, topographic structure)
Spatial zones monitored	Coastal waters (Territorial water EEZ (or similar)	-		
Start(and end) date of the programme	1981-9999			
Frequency of the monitoring	Continually			
Type of monitoring	In-situ sampling In-situ sampling Remote surveilla	offshore,		
Data management and	The data of the d	distribution of se	abed substrate an	d morphology in the
access	Estonian waters	are available at t	he Geological Sur	vey and Land Board and
	uploaded to the	EMODnet Geolo	gy portal. Data on	organic matter are
	reported every y	/ear by 1 March a	and are made avai	lable via national
	environmental d	latabase KESE.		
			reated and made	available based on
	measurements of			
Indicators to which the	BALEED6C5.17 -	Organic matter of	content in sedime	nt
programme contributes				
Contact				epartment: Peeter Väling,
		-	erma, peeter.inge	
	-			larine Geology and
		n Suuroja, sten.si		
-			o.sibul@maaame	
References	and available at			hister of the environment
	https://www.en trateegia	vir.ee/et/eesmai	gid-tegevused/me	erekeskkonna-kaitse/meres
	(https://www.er	nvir.ee/sites/defa	ult/files/mereala	_seireprogramm_2021_202
	6.pdf) (in Estonia	an).		



MONITODING		07 16 DhucDictur	b Dhusiaal lass a	nd disturbance from		
MONITORING PROGRAMME	different human		D - Physical loss a	nd disturbance – from		
Introduction/overview of			ssess physical loss	and disturbance of seabed		
programme				nitoring strategies "		
programme		•		e		
	SD6/SD1 Sea-floor integrity/Biological diversity – benthic habitats" and "SD7 –					
	Changes in hydrographic conditions". The programme is related to GES					
	Descriptor D6, Criteria D6C1, D6C2, D6C3 and D6C4; Descriptor D7, Criteria D7C1 and D7C2. Data are gathered through permitting database KOTKAS as					
		-		_		
				collection is regionally		
		-		intry) via HELCOM.		
		•	• • •	nme structure and		
		pments since 201		toring programmes in the		
			-	toring programmes in the		
			tribution and exte			
		-	-	ance - from dredging and		
		ged material; Phy	sical disturbance	- from sand and gravel		
Burnoso of programmo	extraction.	marine environm	ont			
Purpose of programme		s causing the pres				
	Effectiveness of		501 (5)			
Other EU or international	Habitats Directiv					
policies to which	Water Framewo					
programme contributes		-	at national legisla	ation		
Monitoring details						
	The extent of adverse effects from anthropogenic pressures on the seabed is determined using the information on the following human activities: dredging					
	dumping, bottom trawling, mining, construction of facilities at sea, etc. A					
	proportion (percentage) of the total extent of the habitat type directly					
	affected by human activities is assessed using overlay analysis performed in					
	the geographical information system. The precondition for the analysis is the					
	existence of georeferenced spatial data layers with updated information on					
	human activities (dredging, dumping, bottom trawling, etc). The extent of					
	hydrographical changes is assessed with mathematical modelling.					
	For dredging and dumping works monitoring, in addition to volume and area					
				measured in-situ		
	(standard EVS-E		,			
			ular and/or as reg	ulated by environmental		
	permits.	, , ,	, 0	,		
		th raw data and b	ased on it spatial	(processed) data with no		
	common place y	et, where it could	be accessed.			
Ecosystem components,	Physical disturba	ance to seabed				
anthropogenic pressures	Elements	Not Applicable				
and activities monitored	monitored	GES criteria	D6C2 Physical di	sturbance to the seabed		
		addressed	Parameters	Extent,		
			monitored	Turbidity		
	Physical loss of t	he seabed				
	Elements	Not Applicable				
	monitored	monitored	GES criteria	D6C1 Physical lo	ss of the seabed	
		addressed				
	litered	addressed	Parameters	Extent		
		addressed	-	Extent		
	Benthic broad h		Parameters	Extent		
			Parameters monitored	Extent		
	Benthic broad h	abitats	Parameters monitored	Extent ffects from physical		
	Benthic broad ha	abitats Benthic habitats	Parameters monitored			
	Benthic broad ha	abitats Benthic habitats GES criteria	Parameters monitored D6C3 Adverse et			
	Benthic broad ha	abitats Benthic habitats GES criteria	Parameters monitored D6C3 Adverse et disturbance	ffects from physical		





		Parameters	Extent
_		monitored	<u> </u>
-		and biogenic reef	
	GES criteria		fects from physical
	addressed	disturbance	
		Parameters	Extent
		monitored	-
		D6C4 Benthic ha	
		Parameters	Extent
		monitored	
			fects from alteration of
		hydrographical c	
		Parameters	Extent
		monitored	
	Infralittoral sand		
	GES criteria	D6C3 Adverse ef	fects from physical
	addressed	disturbance	
		Parameters	Extent
		monitored	
		D6C4 Benthic ha	
		Parameters	Extent
		monitored	
			fects from alteration of
		hydrographical c	onditions
		Parameters	Extent
		monitored	
	Infralittoral mud		
	GES criteria		fects from physical
	addressed	disturbance	
		Parameters	Extent
		monitored	
	-	D6C4 Benthic ha	
		Parameters	Extent
		monitored	
			fects from alteration of
		hydrographical c	
		Parameters	Extent
	Information 1 - 1	monitored	
	Infralittoral mixe		facto fuence de la d
	GES criteria		fects from physical
	addressed	disturbance	Future
		Parameters	Extent
		monitored	
		D6C4 Benthic ha	
		Parameters	Extent
		monitored	
			fects from alteration of
		hydrographical c	
		Parameters	Extent
_		monitored	
-	Infralittoral coars		
	GES criteria		fects from physical
	addressed	disturbance	
		Parameters	Extent
		monitored	
		D6C4 Benthic ha	bitat extent





	Demonsterne	F orthe set
	Parameters	Extent
	monitored	, , , , , , , , , , , , , , , , , , ,
		fects from alteration of
	hydrographical c	
	Parameters	Extent
	monitored	
Circalittoral rock	and biogenic ree	f
GES criteria	D6C3 Adverse ef	fects from physical
addressed	disturbance	
	Parameters	Extent
	monitored	
	D6C4 Benthic ha	bitat extent
	Parameters	Extent
	monitored	
		fects from alteration of
	hydrographical c	
	Parameters	Extent
	monitored	
Circalittoral sand		
GES criteria		facts from physical
		fects from physical
addressed	disturbance	F
	Parameters	Extent
	monitored	
	D6C4 Benthic ha	bitat extent
	Parameters	Extent
	monitored	
	D7C2 Adverse ef	fects from alteration of
	hydrographical c	onditions
	Parameters	Extent
	monitored	
Circalittoral mud		
GES criteria	D6C3 Adverse ef	fects from physical
addressed	disturbance	
	Parameters	Extent
	monitored	
	D6C4 Benthic ha	hitat extent
	Parameters	Extent
	Parameters monitored	Extent
	Parameters monitored D7C2 Adverse ef	Extent fects from alteration of
	Parameters monitored D7C2 Adverse ef hydrographical c	Extent fects from alteration of onditions
	Parameters monitored D7C2 Adverse ef hydrographical c Parameters	Extent fects from alteration of
	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored	Extent fects from alteration of onditions
Circalittoral mixe	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored ed sediment	Extent fects from alteration of onditions Extent
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored ed sediment D6C3 Adverse ef	Extent fects from alteration of onditions
	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored ed sediment D6C3 Adverse ef disturbance	Extent fects from alteration of onditions Extent fects from physical
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored ed sediment D6C3 Adverse ef	Extent fects from alteration of onditions Extent
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored ed sediment D6C3 Adverse ef disturbance	Extent fects from alteration of onditions Extent fects from physical
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored ed sediment D6C3 Adverse ef disturbance Parameters	Extent fects from alteration of onditions Extent fects from physical Extent
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored ed sediment D6C3 Adverse ef disturbance Parameters monitored	Extent fects from alteration of onditions Extent fects from physical Extent
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored ed sediment D6C3 Adverse ef disturbance Parameters monitored D6C4 Benthic ha	Extent fects from alteration of onditions Extent fects from physical Extent bitat extent
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical of Parameters monitored ed sediment D6C3 Adverse ef disturbance Parameters monitored D6C4 Benthic ha Parameters monitored	Extent fects from alteration of onditions Extent fects from physical Extent bitat extent
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical of Parameters monitored ed sediment D6C3 Adverse ef disturbance Parameters monitored D6C4 Benthic ha Parameters monitored D7C2 Adverse ef	Extent fects from alteration of onditions Extent fects from physical Extent bitat extent Extent fects from alteration of
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored ed sediment D6C3 Adverse ef disturbance Parameters monitored D6C4 Benthic ha Parameters monitored D7C2 Adverse ef hydrographical c	Extent fects from alteration of onditions Extent fects from physical Extent bitat extent Extent fects from alteration of onditions
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical c Parameters monitored ed sediment D6C3 Adverse ef disturbance Parameters monitored D6C4 Benthic ha Parameters monitored D7C2 Adverse ef hydrographical c Parameters	Extent fects from alteration of onditions Extent fects from physical Extent bitat extent Extent fects from alteration of
GES criteria addressed	Parameters monitored D7C2 Adverse ef hydrographical of Parameters monitored ed sediment D6C3 Adverse ef disturbance Parameters monitored D6C4 Benthic ha Parameters monitored D7C2 Adverse ef hydrographical of Parameters monitored	Extent fects from alteration of onditions Extent fects from physical Extent bitat extent Extent fects from alteration of onditions
GES criteria	Parameters monitored D7C2 Adverse ef hydrographical of Parameters monitored ed sediment D6C3 Adverse ef disturbance Parameters monitored D6C4 Benthic ha Parameters monitored D7C2 Adverse ef hydrographical of Parameters monitored se sediment	Extent fects from alteration of onditions Extent fects from physical Extent bitat extent Extent fects from alteration of onditions





			Extent ffects from alteration of	
		hydrographical Parameters monitored	Extent	
Spatial zones monitored	Coastal waters (WFD), Territorial waters, EEZ (or similar)			
Start(and end) date of the programme	1992-9999			
Frequency of the monitoring	Other (specify)			
Type of monitoring	In-situ sampling coastal, In-situ sampling offshore, Administrative data collection, Ecological modelling, Numerical modelling, Other			
Data management and access	The data is compiled and updated at least once in the 6-year period. The common place, where the data access could be provided is still under development.			





Indicators to which the	BALEED6C1.1 - Spatial distibution and area of physical loss of the natural
programme contributes	seabed,
	BALEED6C2.1 - Spatial distibution and area of physical disturbance to the
	seabed.,
	BALEED6C3.1 - The spatial area of physical disturbance to the habitat type
	sandbanks (code 1110),
	BALEED6C3.2 - The spatial area of physical disturbance to the habitat type
	estuaries (code 1130), BALEED6C3.3 - The spatial area of physical disturbance to the habitat type
	mudflats and sandflats (code 1140),
	BALEED6C3.4 - The spatial area of physical disturbance to the habitat type
	large shallow inlets and bays (code 1160),
	BALEED6C3.5 - The spatial area of physical disturbance to the habitat type
	reefs (code 1170),
	BALEED6C3.6 - The spatial area of physical disturbance to the habitat type
	infralittoral rock and biogenic reef,
	BALEED6C3.7 - The spatial area of physical disturbance to the habitat type
	infralittoral sand,
	BALEED6C3.8 - The spatial area of physical disturbance to the habitat type
	infralittoral mud,
	BALEED6C3.9 - The spatial area of physical disturbance to the habitat type
	infralittoral mixed sediment,
	BALEED6C3.10 - The spatial area of physical disturbance to the habitat type
	infralittoral coarse sediment,
	BALEED6C3.11 - The spatial area of physical disturbance to the habitat type
	circalittoral rock and biogenic reef,
	BALEED6C3.12 - The spatial area of physical disturbance to the habitat type
	circalittoral sand,
	BALEED6C3.13 - The spatial area of physical disturbance to the habitat type
	circalittoral mud, BALEED6C3.14 - The spatial area of physical disturbance to the habitat type
	circalittoral mixed sediment,
	BALEED6C3.15 - The spatial area of physical disturbance to the habitat type
	circalittoral coarse sediment,
	BALEED6C4.1 - The spatial area of loss of the habitat type sandbanks (code
	1110) resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.2 - The spatial area of loss of the habitat type estuaries (code
	1130) resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.3 - The spatial area of loss of the habitat type mudflats and
	sandflats (code 1140) resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.4 - The spatial area of loss of the habitat type large shallow inlets
	and bays (code 1160) resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.5 - The spatial area of loss of the habitat type reefs (code 1170)
	resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.6 - The spatial area of loss of the habitat type infralittoral rock and
	biogenic reef resulting from anthropogenic loss of the natural seabed, BALEED6C4.7 - The spatial area of loss of the habitat type infralittoral sand
	resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.8 - The spatial area of loss of the habitat type infralittoral mud
	resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.9 - The spatial area of loss of the habitat type infralittoral mixed
	sediment resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.10 - The spatial area of loss of the habitat type infralittoral coarse
	sediment resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.11 - The spatial area of loss of the habitat type circalittoral rock
	and biogenic reef resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.12 - The spatial area of loss of the habitat type circalittoral sand
	resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.13 - The spatial area of loss of the habitat type circalittoral mud
	resulting from anthronogenic loss of the natural seabed,
	BALEED6C4.14 - The spatial area of loss of the habitat type circalittoral mixed
	sediment resulting from anthropogenic loss of the natural seabed,
	BALEED6C4.15 - The spatial area of loss of the habitat type circalittoral coarse





Contact	The Ministry of the Environment: Kaspar Anderson,			
	kaspar.anderson@envir.ee; Eda Andresmaa, eda.andresmaa@envir.ee);			
	Estonian Environment Agency: Anastasiia Kovtun-Kante,			
	anastasiia.kovtun-kante@envir.ee.			
References	The monitoring programme is approved by the minister of the environment			
	and available at			
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres			
	trateegia			
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202			
	6.pdf) (in Estonian).			



MONITORING	BALEE-D010406-17_ComStockFurcellaria - Commerical stock of Furcellaria
PROGRAMME	lumbricalis
Introduction/overview of	
programme	community characteristics (BALEE-D010406-12_SeabedHabitat) and is no
	longer in place as a separate programme.



MONITODING				sing the share and	
MONITORING			n-indigenous spe	cies – harbours and	
PROGRAMME	adjacent regions				
Introduction/overview of		rogramme is to n			
programme	abundance/biomass of non-indigenous phytoplankton, zooplankton, macrozoobenthos and fish in harbours and adjacent areas. Port NIS				
	monitoring is carried out in one port (Muuga) with the identified highest risk				
	for introduction of new non-indigenous species, while monitoring of adjacent				
		-	•		
	areas is performed for three harbours. In addition, species-specific monitoring covers a few most invasive non-indigenous species: the round goby Neogobius				
	melanostomus, Chinese mitten crab Eriocheir sinensis and Harris mud crab				
	Rhithropanopeus harrisii. The programme provides data to monitoring				
	strategy "SD2 – Non-indigenous species". The programme is primarily related to GES Descriptor D2, Criteria D2C1, D2C2 and D2C3; but also contributes to D1, D4 and D6. Monitoring is conducted annually at the designated monitoring stations with organism-group specific monitoring designs. The				
	-	-		y are assured by regional	
	-		-	OSPAR/HELCOM port	
				rly reported to the	
	-	nonitoring databa			
		-		adding species-specific	
	monitoring.		,	51 1	
		corresponds to t	he following mor	nitoring programmes in the	
				m specific sources;	
	Non-indigenous	species - abunda	nce and/or biom	ass.	
Purpose of programme	Environmental s	tate and impacts,			
	Pressures in the	marine environm	ient		
Other EU or international	Invasive Alien Sp	becies Regulation			
policies to which	Habitats Directiv	/e,			
programme contributes		ramme targeting			
			Control and Man	agement of Ships' Ballast	
	Water and Sedir				
Monitoring details				s, fouling, mobile epifauna	
				dance with HELCOM and	
		-		ree adjacent areas. om all biological monitoring	
	stations.	VIS OCCUITENCE IS	also gathered itc		
Ecosystem components,		ed non-indigenou	ssnecies		
anthropogenic pressures	Elements	Not Applicable	species		
and activities monitored	monitored	GES criteria	D2C1 Newly-int		
	lineintered	addressed	Parameters	Species composition;	
			monitored	Abundance (number of	
				individuals); Biomass;	
				Relative biomass in	
				community	
	Established non-	-indigenous speci	es	· ·	
	Elements	Rhithropanopeu			
	monitored	GES criteria	D2C2 Establishe	ed NIS	
		addressed	Parameters	Abundance (number of	
			monitored	individuals),	
				Biomass	
		Eriocheir sinens			
		GES criteria	D2C2 Establishe	ed NIS	
		addressed	Parameters	Abundance (number of	
			monitored	individuals),	
				Biomass	
		Neogobius mela			
	GES criteria D2C2 Established NIS				





				1
		addressed	Parameters monitored	Abundance (number of individuals),
				Biomass
		Zooplankton communities		
		GES criteria	D2C2 Established NIS	
		addressed	Parameters	Abundance (number of
			monitored	individuals),
				Biomass,
				Species composition;
				Relative biomass in
				community
		Benthic habitats	- macrobenthic c	ommunities
		GES criteria	D2C2 Established	
		addressed	Parameters	Abundance (number of
			monitored	individuals),
				Biomass,
				Species composition;
				Relative biomass in
		Donthia habitata	maaranhuta aar	community
		GES criteria	- macrophyte cor D2C2 Establishee	
		addressed	Parameters	Abundance (number of
		audresseu	monitored	individuals),
			monitored	Biomass,
				Species composition;
				Relative biomass in
				community
		Mobile epifauna		
		GES criteria	D2C2 Establishee	d NIS
		addressed	Parameters	Abundance (number of
			monitored	individuals),
				Biomass,
				Species composition
		Fouling	a.	
		GES criteria	D2C2 Established	d NIS
		addressed		
		auuresseu	Parameters	Abundance (number of
		addressed	Parameters monitored	individuals),
		addressed		individuals), Biomass,
			monitored	individuals),
		Phytoplankton c	monitored	individuals), Biomass, Species composition
		Phytoplankton c GES criteria	monitored ommunities D2C2 Established	individuals), Biomass, Species composition
		Phytoplankton c	monitored ommunities D2C2 Established Parameters	individuals), Biomass, Species composition d NIS Abundance (number of
		Phytoplankton c GES criteria	monitored ommunities D2C2 Established	individuals), Biomass, Species composition d NIS Abundance (number of individuals),
		Phytoplankton c GES criteria	monitored ommunities D2C2 Established Parameters	individuals), Biomass, Species composition d NIS Abundance (number of individuals), Biomass,
Snatial zones monitored	Coastal waters ()	Phytoplankton c GES criteria addressed	monitored ommunities D2C2 Established Parameters	individuals), Biomass, Species composition d NIS Abundance (number of individuals),
	Coastal waters (1	Phytoplankton c GES criteria addressed	monitored ommunities D2C2 Established Parameters	individuals), Biomass, Species composition d NIS Abundance (number of individuals), Biomass,
Start(and end) date of the	Coastal waters (2010-9999	Phytoplankton c GES criteria addressed	monitored ommunities D2C2 Established Parameters	individuals), Biomass, Species composition d NIS Abundance (number of individuals), Biomass,
Start(and end) date of the programme	2010-9999	Phytoplankton c GES criteria addressed	monitored ommunities D2C2 Established Parameters	individuals), Biomass, Species composition d NIS Abundance (number of individuals), Biomass,
Spatial zones monitored Start(and end) date of the programme Frequency of the monitoring		Phytoplankton c GES criteria addressed	monitored ommunities D2C2 Established Parameters	individuals), Biomass, Species composition d NIS Abundance (number of individuals), Biomass,
Start(and end) date of the programme Frequency of the monitoring	2010-9999 Yearly	Phytoplankton c GES criteria addressed WFD)	monitored ommunities D2C2 Established Parameters	individuals), Biomass, Species composition d NIS Abundance (number of individuals), Biomass,
Start(and end) date of the programme Frequency of the	2010-9999 Yearly In-situ sampling	Phytoplankton c GES criteria addressed WFD)	monitored ommunities D2C2 Established Parameters monitored	individuals), Biomass, Species composition d NIS Abundance (number of individuals), Biomass,





Indicators to which the	BALEED2C1.1 - Number of new non-indigenous species,				
programme contributes	BALEED2C2.1 - Abundance of alien pelagic invertebrate species,				
	BALEED2C3.1 - Contribution of non-indigenous species in zooplankton				
	community,				
	BALEED2C2.2 - Biomass of alien benthic invertebrate species,				
	BALEED2C3.2 - Contribution of non-indigenous species in macrozoobenthic				
	community,				
	BALEED2C2.3 - Catch per unit effort of mobile non-indigenous species				
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,				
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee				
References	The monitoring programme is approved by the minister of the environment				
	and available at				
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres				
	trateegia				
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202				
	6.pdf) (in Estonian).				



MONITORING PROGRAMME	biomass	BALEE-D02-19_NISDynImpact - Non-indigenous species – abundance and biomass			
Introduction/overview of	The aim of the	programme is to	cover all major or	ganism groups	
programme	(phyto/zooplar benthic commu species in zoop abundance/bio the data and in programmes. T	kton, phyto/zoob unities (abundanc lankton and macr mass of mobile sp formation used o he programme pr	enthos, fish) and e/biomass and pr ozoobenthos cor pecies, and biopo riginate from oth ovides data to m	monitor both, pelagic and oportion of non-indigenous	
	and D6. Monito stations with o	oring is conducted rganism-group sp	l annually at the c ecific monitoring	also contributes to D1, D4 designated monitoring designs. The assessment toring and assessment	
				LCOM and following the	
				rly reported to the	
				arch). The threshold values	
		-		e been defined (nationally,	
		piopollution level)			
	-	-		nitoring programmes in the	
				ce and/or biomass.	
Purpose of programme		state and impacts			
		e marine environr			
Other EU or international	Invasive Alien S	pecies Regulation	۱,		
policies to which	Habitats Direct		,		
programme contributes	Monitoring pro	gramme targeting	g at national legis	lation,	
	International Convention for the Control and Management of Ships' Ballast				
	Water and Sed	iments	nts		
Monitoring details	Most of the dat	ta and informatio	n used originate f	rom other monitoring	
	-	programmes. Info onitoring stations		ccurrence is gathered from	
Ecosystem components,		ced non-indigenou			
anthropogenic pressures	Elements	Not Applicable			
and activities monitored	monitored	GES criteria	D2C1 Newly-in	troduced NIS	
		addressed	Parameters	Species composition;	
			monitored	Abundance (number of	
				individuals); Biomass	
	Established nor	n-indigenous spec	ies	individuals); Biomass	
	Established nor Elements	n-indigenous spec		individuals); Biomass	
	Elements	Neogobius mel	anostomus		
	Elements	Neogobius mel GES criteria	anostomus D2C2 Establish	ed NIS	
	Elements	Neogobius mel GES criteria addressed	anostomus D2C2 Establish Parameters monitored	ed NIS Abundance (number of	
	Elements	Neogobius mel GES criteria addressed Eriocheir sinen:	anostomus D2C2 Establish Parameters monitored	ed NIS Abundance (number of individuals), Biomass	
	Elements	Neogobius mel GES criteria addressed Eriocheir sinen GES criteria	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish	ed NIS Abundance (number of individuals), Biomass ed NIS	
	Elements	Neogobius mel GES criteria addressed Eriocheir sinen:	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish Parameters	ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of	
	Elements	Neogobius mel GES criteria addressed Eriocheir sinen GES criteria	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish	ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals),	
	Elements	Neogobius mel GES criteria addressed Eriocheir sinen: GES criteria addressed	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish Parameters monitored	ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of	
	Elements	Neogobius mel GES criteria addressed Eriocheir sinen: GES criteria addressed Rhithropanope	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish Parameters monitored us harrisii	ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals), Biomass	
	Elements	Neogobius mel GES criteria addressed Eriocheir sinen: GES criteria addressed Rhithropanope GES criteria	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish Parameters monitored us harrisii D2C2 Establish	ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals), Biomass ed NIS	
	Elements	Neogobius mel GES criteria addressed Eriocheir sinen: GES criteria addressed Rhithropanope	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish Parameters monitored us harrisii D2C2 Establish Parameters	ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of	
	Elements	Neogobius mel GES criteria addressed Eriocheir sinen: GES criteria addressed Rhithropanope GES criteria	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish Parameters monitored us harrisii D2C2 Establish	ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals),	
Spatial zonas manitarad	Elements monitored	Neogobius mel GES criteria addressed Eriocheir sinen: GES criteria addressed Rhithropanope GES criteria addressed	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish Parameters monitored us harrisii D2C2 Establish Parameters	ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of	
Spatial zones monitored	Elements monitored Coastal waters	Neogobius mel GES criteria addressed Eriocheir sinen: GES criteria addressed Rhithropanope GES criteria addressed (WFD),	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish Parameters monitored us harrisii D2C2 Establish Parameters	ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals),	
Spatial zones monitored	Elements monitored	Neogobius mel GES criteria addressed Eriocheir sinen: GES criteria addressed Rhithropanope GES criteria addressed (WFD),	anostomus D2C2 Establish Parameters monitored sis D2C2 Establish Parameters monitored us harrisii D2C2 Establish Parameters	ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals), Biomass ed NIS Abundance (number of individuals),	





Start(and end) date of the	2010-9999
programme	
Frequency of the	Yearly
monitoring	
Type of monitoring	In-situ sampling coastal,
	Numerical modelling
Data management and	The data are yearly reported to the national environmental monitoring
access	database KESE (by 1 March).
Indicators to which the	BALEED2C1.1 - Number of new non-indigenous species,
programme contributes	BALEED2C2.3 - Catch per unit effort of mobile non-indigenous species,
	BALEED2C2.1 - Abundance of alien pelagic invertebrate species,
	BALEED2C3.1 - Contribution of non-indigenous species in zooplankton
	community,
	BALEED2C2.2 - Biomass of alien benthic invertebrate species,
	BALEED2C3.2 - Contribution of non-indigenous species in macrozoobenthic
	community,
	BALEED2C3.3 - Biopollution level (BPL)
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).



MONITORING		DhytonChia Chi	aranhulla	
MONITORING PROGRAMME	BALEE-D05-20_I	PhytopChla - Chlo	oropnyii-a	
Introduction/overview of programme	column (includin productivity. It p and is related to Criterion D4C2. coastal water bo sub-divisions). N a frequency of 6 least 3 stations areas). The prog and the HELCOM each country. Th monitoring data September). Alg remote sensing The programme some monitorin The programme	ng surface layer) provides data to o GES Descriptor Data are gathere odies and off-sho Aonitoring is con i to 12 times a ye in each coastal w gramme data coll A guidelines are base KESE (by 1 porithms for chlo data are under o is essentially the g stations and fr corresponds to	to assess phytopla monitoring strateg D5, Criterion D5C2 ed to assess the en- ore sub-basins of the ducted yearly or a ear at the designat vater body and 18 lection is regionall followed, data are y reported to the March) and HELCO rophyll-a concentra levelopment. e same as in 2014, equencies were up the following mon	itoring programmes in the
			biomass, frequend	су).
Purpose of programme Other EU or international policies to which programme contributes Monitoring details	Water Framework Monitoring prog HELCOM Monitor Chlorophyll-a co monitoring stati concentration is integrated samp fixed depths. As Chl-a analysis ar from a predefin fluorescence is a measurements a fluorometers. So remote method Monitoring is co of 6 to 12 times stations in each	gramme targetin oring programme oncentration dete ons with a batho i fixed in the wat ple is made pooli part of the Ferry re collected with ed location on the analysed. In addi are done at buoy urface layer pigm (satellite). onducted yearly of a year at the des	g at national legisl ermination sample ometer at depths of er column, then fr ng equal amounts ybox monitoring, s an automatic sam re route of the line tion, chlorophyl r-stations and by s nent concentration or at least once in signated monitorir	es are collected from certain of 1, 5 and 10 m (if maxima rom this depth also). An of water collected from mamples for later laboratory pler from depths of 4-5 m er and chlorophyll-a
Ecosystem components,	Eutrophication			
anthropogenic pressures and activities monitored	Elements monitored	Chlorophyll-a GES criteria addressed	D5C2 Chloroph Parameters monitored	yll-a concentration Concentration in water
	Coastal ecosyste	em		
	Elements	Primary produc		
	monitored	GES criteria addressed	D4C2 Abundand Parameters monitored	ce across trophic guilds Concentration in water
Spatial zones monitored	Coastal waters (Territorial water EEZ (or similar)			
Start(and end) date of the	1993-9999			
programme Frequency of the monitoring	Yearly			





Type of monitoring	In-situ sampling coastal,
	In-situ sampling offshore
Data management and	The data are yearly reported to the national environmental monitoring
access	database KESE (by 1 March) and ICES (HELCOM Combine).
Indicators to which the	BALEED5C2.1 - Summer chlorophyll a concentration in seawater
programme contributes	
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).





MONITORING	PALEE DOE 21		mful blooms (rem	noto concina)
PROGRAMME	BALLE-D03-21_/	Algarbioonis - Hai	initial biolonis (ren	iote sensing)
PROGRAMME Introduction/overview of programme Purpose of programme	The aim of the programme is to monitor the surface accumulation of phytoplankton using remote sensing data. It provides data to monitoring strategy "SD5 – Eutrophication" and is related to GES Descriptor D5, Criterion D5C3. The status of mostly off-shore sub-basins of the Baltic Sea (HELCOM sub-divisions) is assessed. Monitoring is conducted continuously. The program is regionally coordinated via HELCOM, and commonly developed and agreed algorithms are used. Algorithms and assessment methods (thresholds) are under development. The programme is essentially the same as in 2014, only minor changes: the satellites in use have been changed. The programme corresponds to the following monitoring programmes in the indicative list: Plankton blooms (biomass, frequency). Environmental state and impacts, Pressures in the marine environment			
Other EU or international	Water Framewo		lent	
policies to which	Bathing Water D			
programme contributes		-	at national legisla	ation
Monitoring details				development. Local
		ithms for Sentine	l satellites data ne	eed to be developed.
Ecosystem components,	Eutrophication			
anthropogenic pressures	Elements		entration of bloor	
and activities monitored	monitored	GES criteria	D5C3 Harmful a	
		addressed	Parameters monitored	Extent, Duration,
			monitoreu	Frequency
		Cyanobacteria		Trequency
		GES criteria	D5C3 Harmful a	Igal blooms
		addressed	Parameters	Extent,
			monitored	Duration,
				Frequency
	Pelagic broad ha			
	Elements	Coastal pelagic		
	monitored	GES criteria addressed	D1C6 Pelagic ha	
		auuresseu	monitored	Number of bloom events
			literica	and duration
Spatial zones monitored	Coastal waters (WFD),		
	Territorial water	rs,		
	EEZ (or similar)			
Start(and end) date of the programme	2006-9999			
Frequency of the monitoring	Other (specify)			
Type of monitoring	Remote satellite			
Data management and			re stored at the n	ational environmental
access	monitoring data			(anta
Contact	anastasiia.kovtu	n-kante@envir.e		nur.kivi@envir.ee
References	-	programme is ap	proved by the mir	nister of the environment
	and available at			
		vir.ee/et/eesmar	gid-tegevused/me	erekeskkonna-kaitse/meres
	trateegia			
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202			
	6.pdf) (in Estonian).			





MONITORING	BALEE-D0508-22		BALEE-D0508-22_NutContLandSource - Inputs of nutrients and contaminants				
PROGRAMME	– land-based sou	irces					
Introduction/overview of programme	The aim of the programme is to monitor and estimate the load of nutrients and contaminants from the land-based sources via rivers and direct discharges. It provides data to monitoring strategies "SD5 – Eutrophication" and "SD8 - Contaminants". The programme is related to anthropogenic						
	III). Monitoring is	pressure "Input of nutrients" and "Inputs of other substances" (MSFD Annex III). Monitoring is conducted yearly. The program is regionally coordinated via					
		HELCOM and the HELCOM PLC guidelines are followed. The programme corresponds to the following monitoring programmes in the					
	indicative list: Nutrient inputs - land-based sources; Contaminant inpu						
-	land-based source						
Purpose of programme		Pressures at source, Effectiveness of measures					
Other EU or international	Water Framewo						
policies to which		ention on Mercur	ν,				
programme contributes		ater Treatment D	-				
	Nitrates Directiv						
	Monitoring prog	ramme targeting	at national legisla	ation			
Monitoring details	Based on the dat	ta from hydrome	tric stations, the c	lischarges of the monitored			
	rivers are detern	nined. The flows	of rivers and area	s that not covered by the			
	monitoring are e	estimated using th	ne corresponding	transfer coefficients and			
				onitoring of watercourses,			
				s in water are determined			
				ads are assessed by the			
				thodology agreed within			
		peration (PLC-W		_			
	-		onitoring-and-ass	essment/monitoring-guidel			
	ines/plc-water-guidelines/).						
			I sampling is performed yearly, 4-12 times a year; river				
		red continuously		6 • • • • •			
			of achievement of f associated indic	of environmental targets ators.			
Ecosystem components,				atmospheric deposition			
anthropogenic pressures	Elements	Not Applicable	, p				
and activities monitored	monitored	GES criteria	D5C1 Nutrient c	oncentrations			
		addressed	Parameters	Concentration in water,			
			monitored	Water level;			
				Temperature; Freshwater			
				input rates from rivers;			
				Input loads of nutrients			
	Input of other su	ıbstances (e.g. sy	nthetic substance	s, non-synthetic			
	substances, radio	onuclides) – diffu	se sources, point	sources, atmospheric			
	deposition, acut	e events					
	Elements	Not Applicable					
	monitored	GES criteria	D8C1 Contaminant in environment				
		addressed	Parameters	Concentration in water,			
			monitored	Load of contaminant			
Spatial zones monitored	Coastal waters (WFD)					
Start(and end) date of the	1924-9999						
programme							
Frequency of the monitoring	Other (specify)						
Type of monitoring	In-situ sampling	land/beach.					
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Numerical mode						
		очи области и области и области и области области области и области области области области области области обл					





Data management and	The hydrochemical data are yearly reported to the national environmental
access	monitoring database KESE. The hydrological data are uploaded quarterly to
	the database WISKI. Water-borne pollution loads are reported to HELCOM PLC
	database annually.
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).



MONITODINC			uma Nutriant la	uala in water column	
MONITORING PROGRAMME	BALEE-D05-23_I	NutrientWaterCol	lumn - Nutrient le	vels in water column	
Introduction/overview of programme	The aim of the programme is to monitor nutrient levels (total nitrogen, total phosphorus, NO3+NO2-N, NH4-N, PO4-P, SiO4-Si) in the water column. It provides data to monitoring strategy "SD5 – Eutrophication", as well as "SD1.6 Biodiversity – pelagic habitats". The programme is related to GES Descriptor D5, Criterion D5C1 and anthropogenic pressure "Input of nutrients" (MSFD Annex III). Data are gathered to assess the pressure levels in the marine environment and environmental status in coastal water bodies and off-shore sub-basins of the Baltic Sea (HELCOM sub-divisions). Monitoring is conducted yearly or at least once in six years with a frequency of 6 to 12 times a year at the designated monitoring stations (at least 3 stations in each coastal water body and 18 in the Estonian off-shore areas). The programme data collection is regionally coordinated via HELCOM and the HELCOM guidelines are followed. The data are yearly reported to the national environmental monitoring database KESE (by 1 March) and HELCOM ICES database (by 1 May). The threshold values for the indicators of concentrations of inorganic nitrogen and phosphorus in coastal waters have still to be developed. The programme is not designed to assess the internal and transboundary loads of nutrients. The programme is essentially the same as in 2014, only minor changes in some monitoring stations and frequencies were undertaken. The programme corresponds to the following monitoring programmes in the indicative list: Water column – chemical characteristics.				
Purpose of programme	Effectiveness of		emical characteris	STICS.	
		marine environm	nent		
Other EU or international	Nitrates Directiv	re,			
policies to which	Water Framewo				
programme contributes			at national legisla		
Monitoring details	Samples are collected from designated monitoring stations with a bathometer at depths of 1, 5 and 10 m and near-bottom layer. As part of the Ferrybox monitoring, samples are collected with an automatic sampler from depths of 4-5 m from a predefined location on the route of the liner with installed equipment. Sampling is carried out annually up to 12 times per year (from June to September) at certain monitoring stations, and in rotation 6 times per year at least once in 6-year period at other monitoring stations. In the off-shore areas the monitoring is conducted 6 times per year and during winter cruise. In addition, samples are collected in frames of Ferrybox monitoring, 12 times every year in the period from April to October.				
Ecosystem components,	Eutrophication				
anthropogenic pressures	Elements	TN			
and activities monitored	monitored	GES criteria	D5C1 Nutrient c		
		addressed	Parameters	Concentration in water	
		ТР	monitored		
		GES criteria	D5C1 Nutrient c	oncentrations	
		addressed	Parameters	Concentration in water	
		uuresseu	monitored		
		NO2-N			
		GES criteria	D5C1 Nutrient c	oncentrations	
		addressed	Parameters	Concentration in water	
			monitored		
		NO3-N			
		GES criteria	D5C1 Nutrient c		
		addressed	Parameters monitored	Concentration in water	





		NH4+ GES criteria	D5C1 Nutrient c	ancontrations
		addressed	Parameters	Concentration in water
		auuresseu	monitored	
		DIP	monitoreu	
		GES criteria	D5C1 Nutrient c	oncentrations
		addressed	Parameters	Concentration in water
		auuresseu	monitored	Concentration in water
		Silicate (SiO4)		
		GES criteria	D5C1 Nutrient c	
		addressed	Parameters monitored	Concentration in water
	Chemical charac			I.
	Elements	TN		
	monitored	GES criteria	GES component	
		addressed	Parameters monitored	Concentration in water
		ТР		
		GES criteria	GES component	not relevant
		addressed	Parameters monitored	Concentration in water
		NO2-N	monitored	
		GES criteria	GES component	not relevant
		addressed	Parameters	Concentration in water
			monitored	
		NO3-N		1
		GES criteria	GES component	not relevant
		addressed	Parameters monitored	Concentration in water
		NH4+		
		GES criteria	GES component	not relevant
		addressed	Parameters monitored	Concentration in water
		DIP	monitored	
		GES criteria	GES component	not relevant
		addressed	Parameters	Concentration in water
		Silicate (SiO4)	monitored	
		GES criteria	GES component	not relevant
		addressed	Parameters	Concentration in water
			monitored	
Spatial zones monitored	Coastal waters (
	Territorial waters,			
		S,		
	EEZ (or similar)	S,		
Start(and end) date of the		S,		
Start(and end) date of the programme	EEZ (or similar) 1993-9999	S,		
Start(and end) date of the programme Frequency of the	EEZ (or similar)	·S,		
Start(and end) date of the programme Frequency of the monitoring	EEZ (or similar) 1993-9999 Yearly			
Start(and end) date of the programme Frequency of the monitoring Type of monitoring	EEZ (or similar) 1993-9999 Yearly In-situ sampling In-situ sampling	coastal, offshore		
Start(and end) date of the programme Frequency of the monitoring Type of monitoring Data management and	EEZ (or similar) 1993-9999 Yearly In-situ sampling In-situ sampling The data are yea	coastal, offshore ırly reported to t		nmental monitoring
Start(and end) date of the programme Frequency of the monitoring Type of monitoring Data management and access	EEZ (or similar) 1993-9999 Yearly In-situ sampling In-situ sampling The data are yea database KESE (I	coastal, offshore arly reported to t by 1 March) and	ICES (HELCOM Cor	nbine).
Start(and end) date of the programme Frequency of the monitoring Type of monitoring Data management and access Indicators to which the	EEZ (or similar) 1993-9999 Yearly In-situ sampling In-situ sampling The data are yea database KESE (I BALEED5C1.1 - S	coastal, offshore arly reported to t by 1 March) and ummer concentr	ICES (HELCOM Cor ation of total nitro	nbine). ogen in seawater,
Start(and end) date of the programme Frequency of the monitoring Type of monitoring Data management and access	EEZ (or similar) 1993-9999 Yearly In-situ sampling In-situ sampling The data are yea database KESE (I BALEED5C1.1 - S BALEED5C1.2 - S	coastal, offshore arly reported to t by 1 March) and ummer concentr ummer concentr	ICES (HELCOM Cor ration of total nitro ration of total phos	nbine). ogen in seawater, ophorus in seawater,
Start(and end) date of the programme Frequency of the monitoring Type of monitoring Data management and access Indicators to which the	EEZ (or similar) 1993-9999 Yearly In-situ sampling In-situ sampling The data are yea database KESE (I BALEED5C1.1 - S BALEED5C1.2 - S	coastal, offshore orly reported to t oy 1 March) and ummer concentr ummer concentr Vinter-time conc	ICES (HELCOM Cor ation of total nitro	nbine). ogen in seawater, ophorus in seawater,



Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,				
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee				
References	The monitoring programme is approved by the minister of the environment and available at				
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres trateegia				
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202 6.pdf) (in Estonian).				



MONITORING	BALEE-DO5-24	NaterColumnChe	am - Water column	n – chemical characteristics	
PROGRAMME	BALLE-003-24_	watercolumnene			
Introduction/overview of programme	The aim of the programme is to monitor chemical characteristics in the water column (including near-bottom layer) to assess the indirect effects of eutrophication and describe conditions of the pelagic and benthic habitats. It provides data to monitoring strategy "SD5 – Eutrophication" and is related to GES Descriptor D5, Criterion D5C5. Data are gathered to assess the environmental status in coastal water bodies and off-shore sub-basins of the Baltic Sea (HELCOM sub-divisions). Monitoring is conducted yearly or at least once in six years with a frequency of 6 to 12 times a year at the designated monitoring stations (at least three stations in each coastal water body and 18 in the Estonian off-shore areas). The program data collection is regionally coordinated via HELCOM and the HELCOM guidelines are followed, but data are delivered separately by each country. Data are yearly reported to the environmental monitoring database KESE (by 1 March) and HELCOM ICES database (by 1 May). Monitoring of pCO2 is not continuous yet. The programme is essentially the same as in 2014, only minor changes in some monitoring stations and frequencies were undertaken.				
		•	-	toring programmes in the	
			nemical characteris	stics.	
Purpose of programme		state and impacts marine environn			
Other EU or international	Water Framewo		nent		
policies to which			g at national legisla	ation	
programme contributes					
Monitoring details	Dissolved oxyge	n concentration i	is measured at des	ignated monitoring	
	stations either in situ with CTD sonde oxygen sensors or in a laborator samples collected with a bathometer (surface layer and near-bottom International guidelines are followed measuring H2S, pH and dissolve concentrations. H2S is measured at deepest monitoring stations in p Sampling is carried out annually up to 12 times per year (from June t September) at certain monitoring stations, and in rotation 6 times per least once in 6-year period at other monitoring stations. In the off-sh monitoring is conducted 6 times per year.				
Ecosystem components,	Eutrophication				
anthropogenic pressures	Elements	Dissolved oxyge			
and activities monitored	monitored	GES criteria addressed	D5C5 Dissolved Parameters monitored	oxygen concentration Concentration in water	
		Hydrogen sulfid	le (H2S)		
		GES criteria	D5C1 Nutrient c		
		addressed	Parameters monitored	Concentration in water	
	Chemical charac	teristics	monitoreu		
	Elements	Dissolved oxyge	en (O2)		
	monitored	GES criteria	GES component	not relevant	
		addressed	Parameters monitored	Concentration in water	
		рН			
		GES criteria addressed	GES component Parameters	not relevant Concentration in water	
			monitored		
		H2S		natural autorit	
		GES criteria addressed	GES component Parameters	not relevant Concentration in water	
		444163564	monitored		





Spatial zones monitored	Coastal waters (WFD),
	Territorial waters,
	EEZ (or similar)
Start(and end) date of the	1993-9999
programme	
Frequency of the	Yearly
monitoring	
Type of monitoring	In-situ sampling coastal,
	In-situ sampling offshore
Data management and	The data are yearly reported to the national environmental monitoring
access	database KESE (by 1 March) and ICES (HELCOM Combine).
Indicators to which the	BALEED5C5.1 - Oxygen debt,
programme contributes	BALEED5C5.2 - Shallow water near-bottom oxygen conditions,
	BALEED5C5.3 - Oxygen consumption
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).



MONITORING PROGRAMME	BALEE-D0507-25	5_WaterColumnP	hys - Water colum	n – physical characteristics	
Introduction/overview of programme	The aim of the programme is to monitor physical characteristics (water temperature, salinity, transparency) in the water column to assess the indirect effects of eutrophication and describe the physical conditions of the pelagic habitats. It provides data to monitoring strategy "SD5 – Eutrophication" and is related to GES Descriptor D5, Criterion D5C4. Data are gathered to assess the environmental status in the coastal water bodies and off-shore sub-basins of the Baltic Sea (HELCOM sub-divisions). Monitoring is conducted yearly or at least once in six years with a frequency of 6 to 12 times a year at the designated monitoring stations (at least three stations in each coastal water body and 18 in the Estonian off-shore areas). The program data collection is regionally coordinated via HELCOM and the HELCOM guidelines are followed, but data are delivered separately by each country (except CMEMS/BOOS monitoring with joint data collection). The data are yearly reported to the environmental monitoring database KESE (by 1 March), HELCOM ICES database (by 1 May) and online data delivery into CMEMS/BOOS databases. The programme is essentially the same as in 2014, only minor changes in some monitoring stations and frequencies were undertaken.				
	indicative list: W	/ater column – pł	ysical characterist	ics.	
Purpose of programme		tate and impacts marine environm			
Other EU or international	Habitats Directiv	-			
policies to which	Maritime Spatia	l Planning Directi	ve		
programme contributes Monitoring details	-			from surface to bottom	
	 with CTD sondes. Transparency is assessed with 30 cm diameter white S disk. As part of the Ferrybox monitoring, the temperature and salinity ar registered at depths of 4-5 m from a predefined location on the route of liner with automatic equipment. CTD water column measurements of temperature and salinity are also being performed at autonomous moni buoys. Sampling is carried out annually up to 12 times per year (from June to September) at certain monitoring stations, and in rotation 6 times per year least once in 6-year period at other monitoring stations. In the off-shore monitoring is conducted 6 times per year. Ferrybox, remote (satellite) measurements and measurements at autonomous buoys are being condicional continuously. 				
Ecosystem components,	Eutrophication	1			
anthropogenic pressures and activities monitored	Elements monitored	Transparency GES criteria	D5C4 Photic lim	+	
		addressed	Parameters monitored	Transparency of water	
	· · ·	rological charact	eristics		
	Elements	Transparency		n at valavant	
	monitored	GES criteria addressed	GES component Parameters	not relevant Transparency of water	
		addi essed	monitored	Tanoparency of Water	
		Temperature			
		GES criteria	GES component	not relevant	
		addressed	Parameters monitored	Temperature	
		Salinity			
		GES criteria	GES component		
		addressed	Parameters	Salinity	





	Hydrographical changes				
	Elements	Transparency			
	monitored	GES criteria	GES component	not relevant	
		addressed	Parameters	Transparency of water	
			monitored		
		Temperature			
		GES criteria	GES component	not relevant	
		addressed	Parameters	Temperature	
			monitored		
		Salinity			
		GES criteria	GES component		
		addressed	Parameters	Salinity	
			monitored		
Spatial zones monitored	Coastal waters (
	Territorial water	ſS,			
	EEZ (or similar)				
Start(and end) date of the	1993-9999				
programme	N 1				
Frequency of the	Yearly				
monitoring					
Type of monitoring	In-situ sampling				
	In-situ sampling Remote surveilla	-			
	Remote satellite				
Data management and			he national enviro	nmental monitoring	
access				ous buoys measurements	
		1EMS/EMODnet I		bus bubys measurements	
Indicators to which the			chi depth transpar	rencv	
programme contributes				/	
Contact	Estonian Enviror	nment Agency: Ar	nastasiia Kovtun-K	ante,	
	anastasiia.kovtu	n-kante@envir.e	e; Arthur Kivi, arth	ur.kivi@envir.ee	
References	The monitoring	programme is ap	proved by the min	ister of the environment	
	and available at				
	https://www.en	vir.ee/et/eesmar	gid-tegevused/me	erekeskkonna-kaitse/meres	
	trateegia				
	(https://www.er	nvir.ee/sites/defa	ult/files/mereala_	_seireprogramm_2021_202	
	6.pdf) (in Estonia	an).			





MONITORING		DhucCharWayoc		ractoristics		
PROGRAMME	BALEE-DU7-20_	BALEE-D07-26_PhysCharWaves - Hydrological characteristics				
Introduction/overview of	The aim of the r	programme is to r	nonitor hydrologi	cal characteristics in the		
programme		-		conditions of the benthic		
				currents are acquired at		
				cal models. Both, coastal		
	-	-		altic Sea (HELCOM division)		
	are monitored. Monitoring is conducted continuously. The program is					
		regionally coordinated via BOOS and Baltic CMEMS (joint data collection). The				
	data are delivered near real-time.					
	The programme	is essentially the	same as in 2014,	only minor changes in		
	some monitorin	g stations and fre	equencies were ur	ndertaken.		
	The programme	corresponds to t	he following mon	itoring programmes in the		
	indicative list: W	/ater column – hy	/drological charac	teristics.		
Purpose of programme	Environmental s	state and impacts	,			
		marine environn	nent			
Other EU or international	Habitats Directiv					
policies to which	Water Framewo	ork Directive				
programme contributes						
Monitoring details				c measurement equipment		
			currents measure	ements).		
Ecosystem components, anthropogenic pressures	Hydrographical changes					
and activities monitored	Elements monitored	Sea level GES criteria	GES component	t not rolovant		
and activities monitored	monitored	addressed	Parameters	Water level		
		auuresseu	monitored	Water level		
		Current regime	monitored			
		GES criteria	GES component not relevant			
		addressed	Parameters	Current velocity,		
			monitored	Direction		
		Wave regime				
		GES criteria	GES component	t not relevant		
		addressed	Parameters	Significant wave height;		
			monitored	Period; Direction		
		drological charact	eristics			
	Elements					
	monitored	GES criteria	GES component			
		addressed	Parameters	Significant wave height;		
			monitored	Period; Direction		
		Current regime		t not rolovent		
		GES criteria addressed	GES component			
		aduressed	monitored	Current velocity, Direction		
		Sea level	monitored	Direction		
		GES criteria	GES component	t not relevant		
		addressed	Parameters	Water level		
			monitored			
Spatial zones monitored	Coastal waters (WFD),				
	Territorial wate					
	EEZ (or similar)					
Start(and end) date of the	1993-9999					
programme						
Frequency of the	Continually					
monitoring						





Type of monitoring	Remote surveillance,				
	Remote satellite imagery,				
	Numerical modelling,				
	In-situ sampling coastal				
Data management and	The data are stored at Estonian Environment Agency (Weather Service) in				
access	WISKI database, TalTech Marine Systems Institute (BOOS) and CMEMS in situ				
	data. Automatic measurements and modelled data are available through				
	Copernicus Marine Service and/or EMODnet Physics.				
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,				
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee				
References	The monitoring programme is approved by the minister of the environment				
	and available at				
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres				
	trateegia				
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202				
	6.pdf) (in Estonian).				





MONITORING	BALEE-D07-27_lo	ce - Ice cover				
PROGRAMME						
Introduction/overview of programme	The aim of the programme is to monitor characteristics of the ice cover. Data are collected by visual observations and remote sensing. Both, coastal water bodies and off-shore sub-basins of the Baltic Sea (HELCOM sub-divisions) are monitored. Monitoring is conducted continuously during winter. The program is regionally coordinated (joint data collection) via Baltic Sea Ice Services and a common product is produced. The data are delivered daily. The programme corresponds to the following monitoring programmes in the indicative list: Ice cover.					
Purpose of programme	Environmental state and impacts, Pressures in the marine environment					
Other EU or international policies to which programme contributes	Habitats Directive, Maritime Spatial Planning Directive					
Monitoring details	Ice monitoring is carried out as a part of national meteorological and hydrological monitoring (Estonian Environment Agency). Ice maps are produced in cooperation with Baltic Sea countries. TalTech Marine Systems Institute performs remote monitoring of ice on a project basis in cooperation with other Baltic Sea countries.					
Ecosystem components,		rological charact	eristics			
anthropogenic pressures	Elements					
and activities monitored	monitored	GES criteria addressed	GES component Parameters monitored	: not relevant Extent; Thickness; Concentration; Ice type		
Spatial zones monitored	Coastal waters (\ Territorial water EEZ (or similar)					
Start(and end) date of the programme	2007-9999					
Frequency of the monitoring	Continually					
Type of monitoring	Visual observation, Remote satellite imagery, Numerical modelling					
Data management and access	The data are stored at Estonian Environment Agency, TalTech Marine Systems Institute (http://sahm.ttu.ee/balticseapic/index.php?do=ice) and Baltic Sea Ice Services (http://www.bsis-ice.de/).					
Contact	anastasiia.kovtu	n-kante@envir.ee		nur.kivi@envir.ee		
References	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee The monitoring programme is approved by the minister of the environment and available at https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres trateegia (https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202 6.pdf) (in Estonian).					





MONITOPING		Concent Constr			
MONITORING PROGRAMME	BALEE-DU7-28_S	SeaCoast - Coasts			
Introduction/overview of	-	-		stal morphology and	
programme	dynamics (including erosion processes). It assesses changes of coasts (incl				
	erosion, etc.) due to natural processes (storms, wave activity) and				
	human-induced pressures. The coastal profile on-shore and in near-shore				
	water, as well as the characteristics of the substrate, are recorded. Data on the substrate and morphology are collected yearly at the selected monitoring				
				•	
	-		-	irvey. Data are reported national environmental	
	database KESE.	March and are ma			
Purpose of programme	Environmental s	tate and impacts,			
		marine environm			
		s causing the pres	sures		
Other EU or international	Habitats Directive,				
policies to which	Maritime Spatial Planning Directive,				
programme contributes	Water Framewo				
Monitoring details				slope are conducted	
	-			al equipment – profilers,	
				diment type, composition	
			orphology are rec	t designated sites so that	
			ce in the 6-year pe		
				ophotos) are used to assess	
	the changes in c		enite intages, or th	ophotosy are used to assess	
Ecosystem components,	Hydrographical				
anthropogenic pressures	Elements	Bathymetry			
101	monitored	GES criteria	D7C1 Alteration	of hydrographical	
		addressed	conditions		
			Parameters	Bathymetric depth	
		monitored			
		Seabed substrate and morphology			
		GES criteria	D7C1 Alteration of hydrographical		
		addressed	conditions		
			Parameters	Physical structure of	
			monitored	habitat (e.g. sediment	
				characteristics,	
				topographic structure)	
	Physical and hyc	Irological characte	eristics		
	Elements	Bathymetry GES criteria	CES component	not rolovant	
	monitoreu	addressed	GES component Parameters	Bathymetric depth	
		audresseu	monitored	Bathymetric depth	
		Seabed substrat	e and morphology	V	
		GES criteria	GES component	-	
		addressed	Parameters	Physical structure of	
			monitored	habitat (e.g. sediment	
				characteristics,	
				topographic structure)	
Spatial zones monitored	Coastal waters (WFD)			
Start(and end) date of the	1994-9999				
programme					
Frequency of the	Yearly				
monitoring					
Type of monitoring	In-situ sampling				
	Remote surveilla				
	Remote satellite	imagery			





Data management and	The processed data are yearly reported to the national environmental
access	monitoring database KESE. The original raw data are stored at the Geological
	Survey. Orthophotos are stored in Land Board.
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).



MONITORING	BALEE-D0809-29_ContaminantBiota - Contaminant levels – in species
	DALLE-D0003-25_Containinantblota - Containinant levels - In species
PROGRAMME Introduction/overview of programme	The aim of the programme is to monitor the concentrations of contaminants in biota. It provides data to monitoring strategy "SD8 – Contaminants" and is related to GES Descriptor D8, Criterion D8C1. The pressure levels in the environment and the contamination of the species are assessed for the Estonian waters, both the coastal and the off-shore areas (HELCOM sub-divisions). Fish samples (perch in coastal waters and herring in open sea areas, either muscle or liver, depending on the substance) are analysed for the following harmful substances: PAHs, PBDEs and BDE209, DEHPs, HCHs, phenols, metals (Hg, Cd, Ni, Pb, Zn, Cu, Ba, Cr, As, Sn), TBT, pesticides, chlorobenzenes, PFOS, dioxins and dI-PCBs, HBCDDs, hydrocarbons (C10-C40). PAHs in coastal waters are monitored from Mytilus trossulus Gould. The programme is regionally coordinated via HELCOM, but also by EU WFD chemical monitoring guidelines. The data are yearly reported to the environmental monitoring database KESE (by 1 March), HELCOM ICES database (by 1 September) and European Environment Agency Eionet database. The programme corresponds to the following monitoring programmes in the indicative list: Contaminant levels - in species, including seafood. The programme has been modified since 2014: the list of monitoring substances was updated and sampling is performed from different matrixes. Food safety monitoring is no longer a part of the programme: the new
Purpose of programme	separate programme was created (Contaminant level - in seafood). Environmental state and impacts, Pressures in the marine environment, Effectiveness of measures
Other EU or international policies to which programme contributes	HELCOM Monitoring programmes, Water Framework Directive, Minamata Convention on Mercury,
p 0. s	Monitoring programme targeting at national legislation





Monitoring details	fish monitoring a sex and gonadal age, size, sex and should be perfor pooled fish samp sufficient materi The target specie fluviatilis) in coa and off-shore are caught in July-Se August-Septemb samples (metals are made. Althou anthracene, nap from molluscs - I sample should b makes ca 100 sp maximum size) a water body to co expensive, the m performed from Monitoring is ca substances, whice addition, the dat gathered from d	and the biological maturity). For che d sexual maturity med in 3-5 replica- oles are used to m al for analysis. es for monitoring stal waters and he eas. Samples are t optember and fem er. Depending on , excl. Hg) and mu ugh fish is predom hthalene, fluoran Mytilus trossulus (e made to provide ecimens per samp ire collected. If the ollect a representa- nolluscs samples a fish muscle tissue rried out in frame ch contributes to N ca on contaminant ifferent project-ba	analyse is perform emical analyses as specimens are cho ates for each chem take up a sample l of contaminants i erring (Clupea ham taken from female tale 12-15 herring substances that w scle tissue (dorso- ninantly used for m thene) should be of Gould, soft body is e sufficient materi ble. Adult specime ere are not enoug ative sample, or if me replaced by fisi- ts concentration a	al trawling and scientific ned (length, weight, age, uniform as possible in osen. Chemical analyses nical class, therefore arge enough to provide n biota are perch (Perca engus) in territorial waters e 10-15 perch specimens specimens caught in will be analysed, both liver -lateral muscle) samples nonitoring, PAHs (excl determined separately s used for sample. Pooled al for analysis, which ens (70-90% of the h mussels in the coastal sampling proves to be too h samples and analyses are ne monitoring - hazardous rogramme of measures. In nd impact in biota are are ordered by the
	Ministry of the Environment.			
Ecosystem components,	-	non UPBT substan	ces	
anthropogenic pressures	Elements	Cadmium and its		
and activities monitored	monitored	GES criteria		nt in environment
	monitorea	addressed	Parameters	Concentration in biota –
		duaressea	monitored	liver,
			monitored	Concentration in biota –
				liver - Perca fluviatilis;
				Concentration in biota –
				liver - Clupea harengus
		Lead and its com	nounds	
		GES criteria		nt in environment
		addressed	Parameters	Concentration in biota –
		duaressea	monitored	liver,
			monitorea	Concentration in biota –
				liver - Perca fluviatilis;
				Concentration in biota –
				liver - Clupea harengus
		Nickel and its co	mpounds	
		GES criteria	-	nt in environment
		addressed	Parameters	Concentration in biota –
			monitored	liver,
				Concentration in biota –
				liver - Perca fluviatilis;
				Concentration in biota –
				liver - Clupea harengus
		Arsenic and its c	ompounds	
		GES criteria	D8C1 Contamina	nt in environment





addressed	Parameters	Concentration in biota –
	monitored	liver,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Barium		
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in biota –
	monitored	liver,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Chromium and i	ts compounds	
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in biota –
	monitored	liver,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Zinc and its com	pounds	
GES criteria	D8C1 Contamina	ant in environment
addressed	Parameters	Concentration in biota –
	monitored	liver,
		Concentration in biota –
		liver - Perca fluviatilis;
		Concentration in biota –
		liver - Clupea harengus
Copper and its c	-	
GES criteria		ant in environment
addressed	Parameters	Concentration in biota –
	monitored	liver,
		Concentration in biota –
		liver - Perca fluviatilis;
		liver - Perca fluviatilis; Concentration in biota –
		liver - Perca fluviatilis;
Tin and its comp		liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus
GES criteria	D8C1 Contamina	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment
· · ·	D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota –
GES criteria	D8C1 Contamina	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver,
GES criteria	D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota –
GES criteria	D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis;
GES criteria	D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis; Concentration in biota –
GES criteria	D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis;
GES criteria	D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis; Concentration in biota –
GES criteria addressed Anthracene GES criteria	D8C1 Contamina Parameters monitored	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus
GES criteria addressed Anthracene	D8C1 Contamina Parameters monitored	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus
GES criteria addressed Anthracene GES criteria	D8C1 Contamina Parameters monitored D8C1 Contamina	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus
GES criteria addressed Anthracene GES criteria	D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota –
GES criteria addressed Anthracene GES criteria	D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – muscle,
GES criteria addressed Anthracene GES criteria	D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota –
GES criteria addressed Anthracene GES criteria	D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Perca fluviatilis;
GES criteria addressed Anthracene GES criteria	D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – liver, Concentration in biota – liver - Perca fluviatilis; Concentration in biota – liver - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –





addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
Newhethelews		muscle - Clupea harengus
Naphthalene GES criteria	D8C1 Contamin	ant in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Brominated dip	phenylethers (con	gener numbers 28, 47, 66,
85, 99, 100, 15	3, 154, and 183)	-
GES criteria		ant in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Alachlor	DOC1 Contonia	
GES criteria addressed	Parameters	ant in environment
addressed	monitored	Concentration in biota –
	monitoreu	muscle, Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
Atrazine		muscle - Clupea harengus
GES criteria	D8C1 Contamin	ant in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Chlorfenvinpho	DS	
GES criteria	D8C1 Contamin	ant in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Chlorpyrifos		
GES criteria		ant in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
	/	a u dialdrina u andrina u
Total cyclodien	e pesticides (aldri	n + dielarin + enarin +
Total cyclodien isodrin) GES criteria		ant in environment





addressed		
uuuresseu	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Total DDT (DDT,	p,p' + DDT, o,p' +	DDE, p,p' + DDD, p,p')
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
DDT, p,p'		·
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Diuron		see super natengus
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Endosulfan		
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
		musele elupeu nurengus
Isoproturon		indsele cluped harengas
Isoproturon GES criteria	D8C1 Contamina	int in environment
· ·	D8C1 Contamina	
GES criteria		nt in environment Concentration in biota –
GES criteria	Parameters	nt in environment
GES criteria	Parameters	nt in environment Concentration in biota – muscle, Concentration in biota –
GES criteria	Parameters	nt in environment Concentration in biota – muscle,
GES criteria	Parameters	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –
GES criteria	Parameters	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis;
GES criteria addressed	Parameters monitored	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –
GES criteria addressed Simazine	Parameters monitored	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus
GES criteria addressed Simazine GES criteria	Parameters monitored D8C1 Contamina	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota –
GES criteria addressed Simazine GES criteria	Parameters monitored D8C1 Contamina Parameters	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment
GES criteria addressed Simazine GES criteria	Parameters monitored D8C1 Contamina Parameters	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota – muscle, Concentration in biota –
GES criteria addressed Simazine GES criteria	Parameters monitored D8C1 Contamina Parameters	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis;
GES criteria addressed Simazine GES criteria	Parameters monitored D8C1 Contamina Parameters	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –
GES criteria addressed Simazine GES criteria	Parameters monitored D8C1 Contamina Parameters	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis;





addressed	Parameters monitored	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus
Di(2-ethylhexyl)r	ohthalate (DEHP)	
GES criteria		ant in environment
addressed	Parameters	Concentration in biota –
audresseu	monitored	
	monitoreu	muscle, Concentration in biota –
		muscle - Perca fluviatilis; Concentration in biota –
Havashlarasvala	hovene (a. P. v.)	muscle - Clupea harengus
GES criteria	hexane (α -, β -, γ -l	ant in environment
addressed	Parameters	Concentration in biota –
audresseu	monitored	
	monitoreu	muscle, Concentration in biota –
		muscle - Perca fluviatilis; Concentration in biota –
		muscle - Clupea harengus
Nonylphenol		muscle - Clupea harengus
GES criteria	DQC1 Contamina	ant in environment
addressed	Parameters	Concentration in biota –
auuresseu	monitored	muscle,
	monitoreu	Concentration in biota –
		muscle - Perca fluviatilis
Octylphonol		Illuscie - Perca Iluviatilis
Octylphenol GES criteria	DQC1 Contomina	ant in any ironmont
		ant in environment
addressed	Parameters	Concentration in biota –
		Concentration in biota – muscle,
	Parameters	Concentration in biota – muscle, Concentration in biota –
addressed	Parameters monitored	Concentration in biota – muscle,
addressed Pentachloropher	Parameters monitored	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis
addressed Pentachloropher GES criteria	Parameters monitored nol D8C1 Contamina	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment
addressed Pentachloropher	Parameters monitored nol D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota –
addressed Pentachloropher GES criteria	Parameters monitored nol D8C1 Contamina	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle,
addressed Pentachloropher GES criteria	Parameters monitored nol D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota –
addressed Pentachloropher GES criteria	Parameters monitored nol D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis;
addressed Pentachloropher GES criteria	Parameters monitored nol D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –
addressed Pentachloropher GES criteria addressed	Parameters monitored nol D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis;
addressed Pentachloropher GES criteria	Parameters monitored nol D8C1 Contamina Parameters monitored	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus
addressed Pentachloropher GES criteria addressed Phenol	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –
addressed Pentachloropher GES criteria addressed Phenol GES criteria	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus
addressed Pentachloropher GES criteria addressed Phenol GES criteria	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle,
addressed Pentachloropher GES criteria addressed Phenol GES criteria	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota –
addressed Pentachloropher GES criteria addressed Phenol GES criteria	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota –
addressed Pentachloropher GES criteria addressed Phenol GES criteria	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota –
addressed Pentachloropher GES criteria addressed Phenol GES criteria addressed	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters monitored	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota –
addressed Pentachloropher GES criteria addressed Phenol GES criteria addressed 2-methyl-phenol	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters monitored	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Perca fluviatilis;
addressed Pentachloropher GES criteria addressed Phenol GES criteria addressed 2-methyl-phenol GES criteria	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus
addressed Pentachloropher GES criteria addressed Phenol GES criteria addressed 2-methyl-phenol	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus
addressed Pentachloropher GES criteria addressed Phenol GES criteria addressed 2-methyl-phenol GES criteria	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus
addressed Pentachloropher GES criteria addressed Phenol GES criteria addressed 2-methyl-phenol GES criteria	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus
addressed Pentachloropher GES criteria addressed Phenol GES criteria addressed 2-methyl-phenol GES criteria	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle - Clupea harengus
addressed Pentachloropher GES criteria addressed Phenol GES criteria addressed 2-methyl-phenol GES criteria	Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis ant in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus ant in environment Concentration in biota – muscle, Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus





m-/p-Cresol		
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in biota –
auuresseu	monitored	
	monitoreu	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
2,3-dimethyl-phe	enol	
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
2,6-Dimethyl phe		
GES criteria		nt in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
3,4-dimethyl-phe	enol	
GES criteria		nt in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
	monitored	Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
	-	muscle - Clupea harengus
3,5-Dimethyl phe		
GES criteria		int in environment
addressed	Parameters	Concentration in biota –
	monitored	muscle,
		Concentration in biota –
		muscle - Perca fluviatilis;
		Concentration in biota –
		muscle - Clupea harengus
Resorcinol		
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in biota –
addressed		
	monitored	muscle,
	monitored	Concentration in biota –
	monitored	Concentration in biota – muscle - Perca fluviatilis;
	monitored	Concentration in biota –
	monitored	Concentration in biota – muscle - Perca fluviatilis;
Pentachlorobenz		Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –
Pentachlorobenz GES criteria	rene	Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –
	rene	Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus
GES criteria	rene D8C1 Contamina	Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota –
GES criteria	ene D8C1 Contamina Parameters	Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota – muscle,
GES criteria	ene D8C1 Contamina Parameters	Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota – muscle, Concentration in biota –
GES criteria	ene D8C1 Contamina Parameters	Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis;
GES criteria	ene D8C1 Contamina Parameters	Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –
GES criteria addressed	ene D8C1 Contamina Parameters monitored	Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus
GES criteria addressed	ene D8C1 Contamina Parameters monitored	Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –





	GES criteria	D8C1 Contamina	ant in environment
	addressed	Parameters	Concentration in biota –
		monitored	muscle,
			Concentration in biota –
			muscle - Perca fluviatilis;
			Concentration in biota –
			muscle - Clupea harengus
Contaminants -	UPBT substances		muscle - Clupea narengus
Elements	Mercury and its	compounds	
monitored	GES criteria		ant in environment
	addressed	Parameters	Concentration in biota –
		monitored	muscle,
		monicorea	Concentration in biota –
			muscle - Perca fluviatilis;
			Concentration in biota –
	Taile set data a stick	-	muscle - Clupea harengus
	Tributyltin-cation		nt in onvironment
			ant in environment
	addressed	Parameters	Concentration in biota –
		monitored	muscle,
			Concentration in biota –
			muscle - Perca fluviatilis;
			Concentration in biota –
			muscle - Clupea harengus
	Total PAHs (Benz	zo(a)pyrene, Benz	o(b)fluoranthene,
		thene, Benzo(ghi)	
	Indeno(1,2,3-cd)		
	GES criteria	D8C1 Contamina	ant in environment
	addressed	Parameters	Concentration in biota –
		monitored	muscle,
			Concentration in biota –
			muscle - Perca fluviatilis;
			Concentration in biota –
			muscle - Clupea
			harengus; Concentration
			in biota – muscle -
			Mytilus trossulus
	Diovins and diov	in-like compound	s (7 PCDDs + 10 PCDFs + 12
	PCB-DLs)		3 (7 1 CDD3 + 10 1 CD13 + 12
	GES criteria	D8C1 Contamina	ant in environment
	addressed	Parameters	Concentration in biota –
		monitored	muscle,
		monitoreu	Concentration in biota –
			muscle - Perca fluviatilis;
			Concentration in biota –
			muscle - Clupea
			harengus;
	Hexabromocyclododecanes (HBCDD)		
	GES criteria	D8C1 Contamina	int in environment
		D8C1 Contamina Parameters	nt in environment Concentration in biota –
	GES criteria	D8C1 Contamina	int in environment
	GES criteria	D8C1 Contamina Parameters	nt in environment Concentration in biota –
	GES criteria	D8C1 Contamina Parameters	nt in environment Concentration in biota – muscle,
	GES criteria	D8C1 Contamina Parameters	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis;
	GES criteria	D8C1 Contamina Parameters	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota –
	GES criteria	D8C1 Contamina Parameters	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea
	GES criteria addressed	D8C1 Contamina Parameters monitored	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus;
	GES criteria addressed	D8C1 Contamina Parameters monitored sulfonic acid (PFC	nt in environment Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea





		addressed	Parameters monitored	Concentration in biota – muscle, Concentration in biota – muscle - Perca fluviatilis; Concentration in biota – muscle - Clupea harengus;
Spatial zones monitored	Coastal waters (WFD),			
	Territorial water	S,		
	EEZ (or similar)			
Start(and end) date of the	1994-9999			
programme				
Frequency of the	Yearly			
monitoring				
Type of monitoring	In-situ sampling	coastal,		
	In-situ sampling	offshore		
Data management and	Data are yearly r	eported to the na	ational environme	ental monitoring database
access	KESE (by 1 Marcl	h), ICES (HELCOM	Combine) and Ei	onet.





ndicators to which the	BALEED8C1.13 - Cadmium and its compounds,
programme contributes	BALEED8C1.14 - Lead and its compounds,
	BALEED8C1.15 - Nickel and its compounds,
	BALEED8C1.16 - Arsenic and its compounds,
	BALEED8C1.17 - Barium,
	BALEED8C1.18 - Chromium and its compounds,
	BALEED8C1.19 - Zinc and its compounds,
	BALEED8C1.20 - Copper and its compounds,
	BALEED8C1.21 - Mercury and its compounds,
	BALEED8C1.22 - Tin and its compounds,
	BALEEDBC1.22 - Anthracene,
	BALEED8C1.45 - Fluoranthene,
	BALEED8C1.46 - Naphthalene,
	BALEEDBC1.47 - Benzo(a)pyrene,
	BALLEDBC1.47 - Benzo(a)pyrene, BALLEDBC1.48 - Benzo(b)fluoranthene,
	BALEED8C1.49 - Benzo(k)fluoranthene,
	BALEED8C1.50 - Benzo(g,h,i)perylene,
	BALEED8C1.51 - Indeno(1,2,3,-cd)pyrene,
	BALEED8C1.36 - Brominated diphenylethers (congener numbers 28, 47, 99,
	100, 153 and 154),
	BALEED8C1.24 - Alachlor,
	BALEED8C1.25 - Atrazine,
	BALEED8C1.26 - Chlorfenvinphos,
	BALEED8C1.27 - Chlorpyrifos,
	BALEED8C1.28 - Total cyclodiene pesticides (aldrin + dieldrin + endrin +
	isodrin),
	BALEED8C1.29 - Total DDT (DDT, p,p' + DDT, o,p' + DDE, p,p' + DDD, p,p'),
	BALEED8C1.30 - DDT, p,p',
	BALEED8C1.31 - Diuron,
	BALEED8C1.32 - Endosulfan,
	BALEED8C1.33 - Isoproturon,
	BALEED8C1.34 - Simazine,
	BALEED8C1.35 - Trifluralin,
	BALEED8C1.23 - Tributyltin-cation,
	BALEED8C1.52 - Di(2-ethylhexyl)phthalate (DEHP),
	BALEED8C1.57 - Hexachlorocyclohexane,
	BALEED8C1.1 - Nonylphenol,
	BALEED8C1.2 - Octylphenol (4-(1,1',3,3'-tetramethylbutyl)-phenol),
	BALEED8C1.3 - Pentachlorophenol,
	BALEED8C1.4 - Phenol,
	BALEED8C1.5 - 2-methyl-phenol (O-Cresol),
	BALEED8C1.6 - m-/p-Cresol,
	BALEED8C1.7 - 2,3-dimethyl-phenol,
	BALEED8C1.8 - 2,6-Dimethyl phenol,
	BALEED8C1.9 - 3,4-dimethyl-phenol,
	BALEED8C1.10 - 3,5-Dimethyl phenol,
	BALEED8C1.11 - Resorcinol,
	BALLEDBC1.11 - Resolution, BALLEDBC1.58 - Pentachlorobenzene,
	BALLEDBC1.33 - Pentachiorobenzene, BALLEDBC1.12 - Non-dioxin like PCB (sum of 6 PCB: 28, 52, 101, 138, 153 and
	180), DALEEDSC1.C4. Disvins and disvin like netwoleringted high-angle (DCDs)
	BALEED8C1.64 - Dioxins and dioxin-like polychlorinated biphenyls (PCBs),
	BALEED8C1.65 - Hexabromocyclododecane (HBCDD),
	BALEED8C1.66 - Perfluorooctane sulphonate (PFOS) and its derivatives
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,





References	The monitoring programme is approved by the minister of the environment and available at https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres trateegia (https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202 6.pdf) (in Estonian).
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MONITODING			Contraction	and lowed as the condition and
MONITORING PROGRAMME	BALEE-D08-30_0	LontaminantSedir	nent - Contamina	nt levels – in sediment
Introduction/overview of programme	in sediments. It and is related to environment are off-shore areas analysed for the DEHPs, HCHs, pl pesticides, chlor (C10-C40). The p HELCOM, but da guidelines are for for chemical star environmental r database (by 1 S The programme substances and The programme	provides data to r GES Descriptor D e assessed for the (territorial waters following harmfu nenols, metals (Hg obenzenes, PFOS orogramme data of ata are delivered s ollowed as well as tus assessment. T nonitoring databa Geptember). has been modifie monitoring sites v corresponds to th	nonitoring strateg 8, Criterion D8C1 Estonian waters, , HELCOM division Il substances: PAH g, Cd, Ni, Pb, Zn, C dioxins and dI-PC collection is region eparately by each EU-WFD guidelin he data are yearly ase KESE (by 1 Ma ed since 2014: the vas updated. he following moni	es on sediment sampling y reported to the rch) and the HELCOM ICES list of monitoring itoring programmes in the
Purpose of programme	indicative list: Contaminant levels - in water/sediment. Environmental state and impacts, Pressures in the marine environment, Effectiveness of measures			ent.
Other EU or international		oring programmes	5,	
policies to which	Water Framewo			
programme contributes	Minamata Convention on Mercury, Monitoring programme targeting at national legislation			
Monitoring details	water sediment sediments with sediment layer of for older pollution pooled sample. sieved to remove the concentration supplementary p determined. The HELCOM set contaminants' to The monitoring data are also gata and environmer	samples are taken siltstone or clay fr of the accumulatio on). Minimum of the Samples, with a to e stones and other ons of hazardous s parameters as tot diment sampling in rend analysis in the is carried at desig thered from the e natal permits when	n from clayey sed raction particles d on areas (depth 0- three subsamples otal volume of at l er unnecessary pa substances (µg/kg al organic carbon methodology may be territorial sea a nated sites out in nvironmental imp the correspondin	(TOC) concentration are to be used for sampling and
Ecosystem components,		non UPBT substar		
anthropogenic pressures and activities monitored	Elements	Cadmium and its		ant in onvironment
	monitored	GES criteria addressed	Parameters	ant in environment Concentration in
		uuresseu	monitored	sediment (total)
		Lead and its con		(,
		GES criteria	-	ant in environment
		addressed	Parameters	Concentration in
			monitored	sediment (total)
		Nickel and its co		
		GES criteria		ant in environment
		addressed	Parameters	Concentration in
		Arconic and it-	monitored	sediment (total)
		Arsenic and its c		ant in environment
		GES criteria	Dact Contamina	ant in environment





	monitored	sediment (total)
Barium		- (
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Chromium and it	ts compounds	
GES criteria	-	nt in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Zinc and its com	pounds	
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Copper and its co	ompounds	· · ·
GES criteria		nt in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Tin and its comp		- (
GES criteria		nt in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Anthracene		
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Fluoranthene		
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Naphthalene		
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Brominated dink		ener numbers 28, 47, 66
85, 99, 100, 153,		
GES criteria		int in environment
addressed	Parameters	Concentration in
addressed	monitored	sediment (total)
Alachlor	monitored	
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Atrazine	monitored	
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in
addressed	monitored	sediment (total)
Chlorfenvinphos		scument (total)
GES criteria		int in environment
addressed		
aduresseu	Parameters	Concentration in
Chlore	monitored	sediment (total)
Chlorpyrifos	DBC1 Crast	at in an deserve t
GES criteria		nt in environment
addracaad	Parameters	Concentration in
addressed	monitored	sediment (total)





GES criteria		int in environment
addressed	Parameters	Concentration in
Tabal DDT (DDT	monitored	sediment (total)
-		DDE, p,p' + DDD, p,p')
GES criteria		ant in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
DDT, p,p'		
GES criteria		int in environment
addressed	Parameters	Concentration in
D:	monitored	sediment (total)
Diuron	2001 0 1	
GES criteria		int in environment
addressed	Parameters	Concentration in
F 1 16	monitored	sediment (total)
Endosulfan	2001 0 1	
GES criteria		ant in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Isoproturon		
GES criteria		int in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Simazine		
GES criteria		ant in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Trifluralin	1	
GES criteria	D8C1 Contamina	ant in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
	ohthalate (DEHP)	
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Hexachlorocyclo	hexane (α-, β-, γ-l	HCH)
GES criteria	D8C1 Contamina	ant in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Nonylphenol		
GES criteria	D8C1 Contamina	ant in environment
addressed	Parameters	Concentration in
	monitored	sediment (total)
Octylphenol		
Occyptiend		
	D8C1 Contamina	ant in environment
GES criteria addressed	D8C1 Contamina Parameters	
GES criteria	Parameters	Concentration in
GES criteria addressed	Parameters monitored	
GES criteria addressed Pentachloropher	Parameters monitored nol	Concentration in sediment (total)
GES criteria addressed Pentachloropher GES criteria	Parameters monitored nol D8C1 Contamina	Concentration in sediment (total) ant in environment
GES criteria addressed Pentachloropher	Parameters monitored nol D8C1 Contamina Parameters	Concentration in sediment (total) ant in environment Concentration in
GES criteria addressed Pentachloropher GES criteria addressed	Parameters monitored nol D8C1 Contamina	Concentration in sediment (total) ant in environment
GES criteria addressed Pentachloropher GES criteria addressed Phenol	Parameters monitored nol D8C1 Contamina Parameters monitored	Concentration in sediment (total) ant in environment Concentration in sediment (total)
GES criteria addressed Pentachloropher GES criteria addressed Phenol GES criteria	Parameters monitored nol D8C1 Contamina Parameters monitored D8C1 Contamina	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment
GES criteria addressed Pentachloropher GES criteria addressed Phenol	Parameters monitored nol D8C1 Contamina Parameters monitored D8C1 Contamina Parameters	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in
GES criteria addressed Pentachloropher GES criteria addressed Phenol GES criteria	Parameters monitored nol D8C1 Contamina Parameters monitored D8C1 Contamina Parameters monitored	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment





	addressed	Parameters	Concentration in		
		monitored	sediment (total)		
	m-/p-Cresol				
	GES criteria		ant in environment		
	addressed	Parameters	Concentration in		
		monitored	sediment (total)		
	2,3-dimethyl-ph				
	GES criteria	D8C1 Contamin	ant in environment		
	addressed	Parameters	Concentration in		
		monitored	sediment (total)		
	2,6-Dimethyl ph	nenol			
	GES criteria	D8C1 Contamin	ant in environment		
	addressed	Parameters	Concentration in		
		monitored	sediment (total)		
	3,4-dimethyl-ph	nenol			
	GES criteria	D8C1 Contamin	ant in environment		
	addressed	Parameters	Concentration in		
		monitored	sediment (total)		
	3,5-Dimethyl pł	nenol			
	GES criteria	D8C1 Contamin	ant in environment		
	addressed	Parameters	Concentration in		
		monitored	sediment (total)		
	Resorcinol				
	GES criteria	D8C1 Contamin	ant in environment		
	addressed	Parameters	Concentration in		
		monitored	sediment (total)		
	Chloroalkanes C10-13				
	GES criteria D8C1 Contaminant in environment				
	addressed	Parameters	Concentration in		
		monitored	sediment (total)		
	Trichlorobenzer	nes (all isomers)			
	GES criteria	D8C1 Contamin	ant in environment		
	addressed	Parameters	Concentration in		
		monitored	sediment (total)		
	Petroleum hydr	ocarbons			
	GES criteria				
	GES CITCEITA	D8C1 Contamin	ant in environment		
	addressed	D8C1 Contamin Parameters	ant in environment Concentration in		
Contaminants -		Parameters monitored	Concentration in		
	addressed	Parameters monitored	Concentration in		
lements	addressed UPBT substances	Parameters monitored	Concentration in		
lements	addressed UPBT substances Mercury and its	Parameters monitored	Concentration in sediment (total)		
lements	addressed UPBT substances Mercury and its GES criteria	Parameters monitored compounds D8C1 Contamin	Concentration in sediment (total) ant in environment		
lements	addressed UPBT substances Mercury and its GES criteria addressed	Parameters monitored	Concentration in sediment (total) ant in environment Concentration in		
lements	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catio	Parameters monitored compounds D8C1 Contamin Parameters monitored	Concentration in sediment (total) ant in environment Concentration in sediment (total)		
lements	addressed UPBT substances Mercury and its GES criteria addressed	Parameters monitored compounds D8C1 Contamin Parameters monitored	Concentration in sediment (total) ant in environment Concentration in		
lements	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catic GES criteria	Parameters monitored compounds D8C1 Contamin Parameters monitored on D8C1 Contamin	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in		
lements	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catic GES criteria addressed	Parameters monitored compounds D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in sediment (total)		
lements	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catic GES criteria addressed Total PAHs (Ber	Parameters monitored compounds D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored zo(a)pyrene, Ben:	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in sediment (total) zo(b)fluoranthene,		
lements	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catio GES criteria addressed Total PAHs (Ber Benzo(k)fluorar	Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D2O(a)pyrene, Bens	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in sediment (total) zo(b)fluoranthene,		
lements	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catic GES criteria addressed Total PAHs (Ber Benzo(k)fluorar Indeno(1,2,3-cd	Parameters monitored compounds D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored con D8C1 Contamin Parameters monitored thene, Benzo(ghi I)pyrene)	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in sediment (total) zo(b)fluoranthene,)perylene,		
lements	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catic GES criteria addressed Total PAHs (Ber Benzo(k)fluorar Indeno(1,2,3-cd GES criteria	Parameters monitored compounds D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored nzo(a)pyrene, Benzo(ghi D9C1 Contamin	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in sediment (total) zo(b)fluoranthene,)perylene, ant in environment		
Elements	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catic GES criteria addressed Total PAHs (Ber Benzo(k)fluorar Indeno(1,2,3-cd	Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D2O(a)pyrene, Benzo(ghi I)pyrene) D8C1 Contamin Parameters	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in sediment (total) zo(b)fluoranthene,)perylene, ant in environment Concentration in		
lements	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catic GES criteria addressed Total PAHs (Ber Benzo(k)fluorar Indeno(1,2,3-cd GES criteria addressed	Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in sediment (total) zo(b)fluoranthene,)perylene, ant in environment Concentration in sediment (total)		
lements	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catic GES criteria addressed Total PAHs (Ber Benzo(k)fluorar Indeno(1,2,3-cd GES criteria addressed Hexabromocycl	Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D2O(a)pyrene, Benz othene, Benzo(ghi D9C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in sediment (total) zo(b)fluoranthene,)perylene, ant in environment Concentration in sediment (total) DD)		
Contaminants - Elements nonitored	addressed UPBT substances Mercury and its GES criteria addressed Tributyltin-catic GES criteria addressed Total PAHs (Ber Benzo(k)fluorar Indeno(1,2,3-cd GES criteria addressed	Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D2O(a)pyrene, Benz othene, Benzo(ghi D9C1 Contamin Parameters monitored D8C1 Contamin Parameters monitored D8C1 Contamin	Concentration in sediment (total) ant in environment Concentration in sediment (total) ant in environment Concentration in sediment (total) zo(b)fluoranthene,)perylene, ant in environment Concentration in sediment (total)		





		Perfluorooctane sulfonic acid (PFOS) and its derivatives		
		GES criteria	D8C1 Contaminant in environment	
		addressed	Parameters	Concentration in
			monitored	sediment (total)
Spatial zones monitored	Coastal waters (WFD),		
	Territorial water	s		
Start(and end) date of the	2014-9999			
programme				
Frequency of the	Yearly			
monitoring				
Type of monitoring	In-situ sampling coastal,			
	In-situ sampling offshore			
Data management and	The data are yearly reported to the national environmental monitoring			
access	database KESE (database KESE (by 1 March), ICES (HELCOM). The data gathered from		
	environmental p	permits are stored	at database KOT	KAS.





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Indicators to which the	BALEED8C1.13 - Cadmium and its compounds,
programme contributes	BALEED8C1.14 - Lead and its compounds,
	BALEED8C1.15 - Nickel and its compounds,
	BALEED8C1.16 - Arsenic and its compounds,
	BALEED8C1.17 - Barium,
	BALEED8C1.18 - Chromium and its compounds,
	BALEED8C1.19 - Zinc and its compounds,
	BALEED8C1.20 - Copper and its compounds,
	BALEED8C1.21 - Mercury and its compounds,
	BALEED8C1.22 - Tin and its compounds,
	BALEED8C1.44 - Anthracene,
	BALEED8C1.45 - Fluoranthene,
	BALEED8C1.46 - Naphthalene,
	BALEED8C1.47 - Benzo(a)pyrene,
	BALEED8C1.48 - Benzo(b)fluoranthene,
	BALEED8C1.49 - Benzo(k)fluoranthene,
	BALEED8C1.50 - Benzo(g,h,i)perylene,
	BALEED8C1.51 - Indeno(1,2,3,-cd)pyrene,
	BALEED8C1.36 - Brominated diphenylethers (congener numbers 28, 47, 99,
	100, 153 and 154),
	BALEED8C1.24 - Alachlor,
	BALEED8C1.25 - Atrazine,
	BALEED8C1.26 - Chlorfenvinphos,
	BALEED8C1.27 - Chlorpyrifos,
	BALEED8C1.28 - Total cyclodiene pesticides (aldrin + dieldrin + endrin +
	isodrin),
	BALEED8C1.29 - Total DDT (DDT, p,p' + DDT, o,p' + DDE, p,p' + DDD, p,p'),
	BALEED8C1.30 - DDT, p,p',
	BALEED8C1.31 - Diuron,
	BALEED8C1.32 - Endosulfan,
	BALEED8C1.33 - Isoproturon,
	BALEED8C1.34 - Simazine,
	BALEED8C1.35 - Trifluralin,
	BALEED8C1.23 - Tributyltin-cation,
	BALEED8C1.52 - Di(2-ethylhexyl)phthalate (DEHP),
	BALEED8C1.57 - Hexachlorocyclohexane,
	BALEEDBC1.1 - Nonylphenol,
	BALEED8C1.2 - Octylphenol (4-(1,1',3,3'-tetramethylbutyl)-phenol),
	BALEED8C1.3 - Pentachlorophenol,
	BALEEDSCI.5 - Phenol,
	BALEEDBCL1.F - Thereof, BALEEDBC1.5 - 2-methyl-phenol (O-Cresol),
	BALEEDBCL.S - 2-methy phenol (O-cresol), BALEEDBCL.6 - m-/p-Cresol,
	BALEEDBC1.7 - 2,3-dimethyl-phenol,
	BALEEDSCI.7 - 2,5-dimethyl-phenol, BALEEDSCI.8 - 2,6-Dimethyl phenol,
	BALEED8C1.8 - 2,0-Dimetriyi prienol, BALEED8C1.9 - 3,4-dimethyl-phenol,
	BALEED8C1.10 - 3,5-Dimethyl phenol,
	BALEEDSC1.10 - 5,5-Dimetricity prenot, BALEEDSC1.11 - Resorcinol,
	BALEED8C1.65 - Hexabromocyclododecane (HBCDD), BALEED8C1.66 - Perfluorooctane sulphonate (PEOS) and its derivatives
	BALEED8C1.66 - Perfluorooctane sulphonate (PFOS) and its derivatives,
	BALEED8C1.53 - Chloroalkanes C10-13, BALEED8C1.61 Tricklorobonzonos (all isomors)
	BALEED8C1.61 - Trichlorobenzenes (all isomers),
Contact	BALEED8C1.62 - Petroleum hydrocarbons (C10-C40)
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee





The monitoring programme is approved by the minister of the environment and available at https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres trateegia (https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
6.pdf) (in Estonian).



MONITORING	BALEE-D08-31	ContaminantWate	er - Contaminant	levels – in water
PROGRAMME				
Introduction/overview of programme	in water. It prov related to GES I environment ar off-shore areas analysed for the Zn, Cu, Ba, Cr, A The program da delivered separa requirements of yearly reported and the HELCOM The programme substances was The programme	ides data to moni Descriptor D8, Crit e assessed for the (territorial waters harmful substan s, Sn), TBT, pestic ta collection is re ately by each court f WFD and its dau to the environme M ICES database (find has been modified updated.	toring strategy "S erion D8C1. The p Estonian waters, HELCOM sub-dir ces: DEHPs, phen- ides, PFOS, PFAS, gionally coordinat ntry), and the HEI ghter directives a ental monitoring c by 1 September). ed since 2014: the he following mon	entrations of contaminants 5D8 – Contaminants" and is pressure levels in the both the coastal and the visions). Water samples are ols, metals (Hg, Cd, Ni, Pb, hydrocarbons (C10-C40). ted via HELCOM (data COM guidelines and re followed. The data are latabase KESE (by 1 March) e list of monitoring itoring programmes in the
Purpose of programme		state and impacts		lent
Fulpose of programme		marine environm		
	Effectiveness of			
Other EU or international	HELCOM Monit	oring programme	S,	
policies to which	Water Framewo			
programme contributes	Minamata Conv	ention on Mercur	γ,	
	Monitoring prog	gramme targeting	at national legisl	ation
Monitoring details	coastal and terr programme. The carbon and wat information. The monitoring in the 6-year pe The monitoring	itorial waters in fi e monitoring cons er hardness are a is conducted ann riod at certain site data are also gath	ames of the nation iders WFD requir so measured for ually in rotation a es, 1-4 times durin nered from compa	water are collected from onal monitoring ements. Total organic supplementary background t designated sites - 3 times ng the ice-free period. anies' environmental quirements listed.
Ecosystem components,	Contaminants -	non UPBT substa		
anthropogenic pressures	Elements	Cadmium and it		
and activities monitored	monitored	GES criteria		ant in environment
		addressed	Parameters	Concentration in water
		Lead and its cor	monitored	
		GES criteria		ant in environment
		addressed	Parameters	Concentration in water
			monitored	
		Nickel and its co	mpounds	
		GES criteria	D8C1 Contamin	ant in environment
	addressed	addressed	Parameters	Concentration in water
			monitored	
		Arsenic and its o		
		GES criteria		ant in environment
		addressed	Parameters	Concentration in water
		Dorium	monitored	
		Barium	DQC1 Contomin	ant in onvironment
		GES criteria addressed	Parameters	ant in environment Concentration in water
		addressed	monitored	
		Chromium and i		
		GES criteria		ant in environment
		510 0.100114		





addressed	Parameters	Concentration in water
	monitored	
Zinc and its com		
GES criteria		nt in environment
addressed	Parameters	Concentration in water
Connor and its s	monitored	
Copper and its co GES criteria		nt in environment
addressed	Parameters	Concentration in water
auuresseu	monitored	
Tin and its comp		
GES criteria		int in environment
addressed	Parameters	Concentration in water
uuuresseu	monitored	
Alachlor		
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in water
	monitored	
Atrazine		I
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in water
	monitored	
Chlorfenvinphos		
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in water
	monitored	
Chlorpyrifos		
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in water
	monitored	
=	pesticides (aldrin	+ dieldrin + endrin +
isodrin)		
GES criteria		nt in environment
addressed	Parameters	Concentration in water
Tatal DDT (DDT	monitored	
		DDE, p,p' + DDD, p,p')
GES criteria		nt in environment
addressed	Parameters	Concentration in water
DDT, p,p'	monitored	
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in water
addressed	monitored	
Diuron	monitored	
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in water
	monitored	
Endosulfan		l
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in water
	monitored	
Isoproturon		I
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in water
	monitored	
Simazine	monitored	





	_	
addressed	Parameters	Concentration in water
Triffunglin	monitored	
Trifluralin GES criteria	DQC1 Contomina	int in environment
addressed	Parameters	Concentration in water
auuresseu	monitored	Concentration in water
Di(2-ethylhexyl)p		
GES criteria		int in environment
addressed	Parameters	Concentration in water
uuuresseu	monitored	
Nonylphenol	monitorea	
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in water
	monitored	
Octylphenol		
GES criteria	D8C1 Contamina	int in environment
addressed	Parameters	Concentration in water
	monitored	
Pentachloropher	nol	
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in water
	monitored	
Phenol		
GES criteria	D8C1 Contamina	nt in environment
addressed	Parameters	Concentration in water
	monitored	
2-methyl-phenol		
GES criteria		nt in environment
addressed	Parameters	Concentration in water
	monitored	
m-/p-Cresol		
GES criteria		int in environment
addressed	Parameters	Concentration in water
2.2 dimentional matrix	monitored	
2,3-dimethyl-phe		nt in anviranment
GES criteria addressed		nt in environment Concentration in water
auuresseu	Parameters monitored	Concentration in water
2,6-Dimethyl phe		
GES criteria		int in environment
addressed	Parameters	Concentration in water
	monitored	
3,4-dimethyl-phe		1
GES criteria		nt in environment
addressed	Parameters	Concentration in water
	monitored	
3,5-Dimethyl phe		1
GES criteria		int in environment
addressed	Parameters	Concentration in water
	monitored	
		1
Resorcinol		
Resorcinol GES criteria	D8C1 Contamina	int in environment
	D8C1 Contamina Parameters	nt in environment Concentration in water
GES criteria		
GES criteria	Parameters monitored	





		addressed	Parameters	Concentration in water
		addressed	monitored	concentration in water
		Petroleum hydro		
		GES criteria		ant in environment
		addressed	Parameters	Concentration in water
			monitored	
		Hexachlorobenz	ene	
		GES criteria	D8C1 Contamina	ant in environment
		addressed	Parameters	Concentration in water
			monitored	
		Pentachloroben	zene	
		GES criteria	D8C1 Contamina	ant in environment
		addressed	Parameters	Concentration in water
			monitored	
		Benzene		
		GES criteria		ant in environment
		addressed	Parameters	Concentration in water
		T 1	monitored	
		Toluene		
		GES criteria		ant in environment
		addressed	Parameters	Concentration in water
		1,2-Dichloroetha	monitored	
		GES criteria		ant in environment
		addressed	Parameters	Concentration in water
		addressed	monitored	concentration in water
		Dichloromethan		
		GES criteria	_	ant in environment
		addressed	Parameters	Concentration in water
			monitored	
		Trichloromethar	ne	
		GES criteria	D8C1 Contamina	ant in environment
		addressed	Parameters	Concentration in water
			monitored	
		o-Xylene		·
		GES criteria	D8C1 Contamina	ant in environment
		addressed	Parameters	Concentration in water
			monitored	
		Meta xylene + p		
		GES criteria		ant in environment
		addressed	Parameters	Concentration in water
			monitored	
		UPBT substances		
	Elements	Mercury and its		at in an diameter at
	monitored	GES criteria addressed		ant in environment
		addressed	Parameters	Concentration in water
		Tributultin esti-	monitored	
		Tributyltin-catio GES criteria		ant in environment
		addressed	Parameters	Concentration in water
		addressed	monitored	
			monitoreu	
		Perfluorooctane	sulfonic acid (PEC)S) and its derivatives
				DS) and its derivatives ant in environment
		GES criteria		ant in environment
			D8C1 Contamina Parameters	
patial zones monitored	Coastal waters (GES criteria addressed	D8C1 Contamina	ant in environment





Start(and end) date of the programme	2010-9999
Frequency of the monitoring	Yearly
Type of monitoring	In-situ sampling coastal,
	In-situ sampling offshore
Data management and	The data are yearly reported to the national environmental monitoring
access	database KESE and ICES (HELCOM). The data gathered from environmental
	permits are stored at database KOTKAS.
Indicators to which the	BALEED8C1.13 - Cadmium and its compounds,
programme contributes	BALEED8C1.14 - Lead and its compounds,
	BALEED8C1.15 - Nickel and its compounds,
	BALEED8C1.16 - Arsenic and its compounds,
	BALEED8C1.17 - Barium,
	BALEED8C1.18 - Chromium and its compounds,
	BALEED8C1.19 - Zinc and its compounds,
	BALEED8C1.20 - Copper and its compounds,
	BALEED8C1.21 - Mercury and its compounds,
	BALEED8C1.22 - Tin and its compounds,
	BALEED8C1.1 - Nonylphenol,
	BALEED8C1.2 - Octylphenol (4-(1,1',3,3'-tetramethylbutyl)-phenol),
	BALEED8C1.3 - Pentachlorophenol,
	BALEED8C1.4 - Phenol,
	BALEED8C1.5 - 2-methyl-phenol (O-Cresol),
	BALEED8C1.6 - m-/p-Cresol,
	BALEED8C1.7 - 2,3-dimethyl-phenol,
	BALEED8C1.8 - 2,6-Dimethyl phenol,
	BALEED8C1.9 - 3,4-dimethyl-phenol,
	BALEED8C1.10 - 3,5-Dimethyl phenol,
	BALEED8C1.11 - Resorcinol,
	BALEED8C1.66 - Perfluorooctane sulphonate (PFOS) and its derivatives,
	BALEED8C1.24 - Alachlor,
	BALEED8C1.25 - Atrazine,
	BALEED8C1.26 - Chlorfenvinphos,
	BALEED8C1.27 - Chlorpyrifos,
	BALEED8C1.28 - Total cyclodiene pesticides (aldrin + dieldrin + endrin +
	isodrin),
	BALEED8C1.29 - Total DDT (DDT, p,p' + DDT, o,p' + DDE, p,p' + DDD, p,p'),
	BALEED8C1.30 - DDT, p,p',
	BALEED8C1.31 - Diuron,
	BALEED8C1.32 - Endosulfan,
	BALEED8C1.33 - Isoproturon,
	BALEED8C1.34 - Simazine,
	BALEED8C1.35 - Trifluralin,
	BALEED8C1.23 - Tributyltin-cation,
	BALEED8C1.52 - Di(2-ethylhexyl)phthalate (DEHP),
	BALEED8C1.55 - Hexachlorobenzene,
	BALEED8C1.58 - Pentachlorobenzene,
	BALEED8C1.61 - Trichlorobenzenes (all isomers),
	BALEED8C1.37 - Benzene,
	BALEED8C1.38 - 1,2-Dichloroethane,
	BALEED8C1.39 - Dichloromethane,
	BALEED8C1.40 - Trichloromethane,
	BALEED8C1.41 - o-Xylene,
	BALEED8C1.42 - Meta xylene + para xylene,
	BALEED8C1.43 - Toluene, BALEED8C1.62 - Detroloum hydrocarbons (C10, C40)
	BALEED8C1.62 - Petroleum hydrocarbons (C10-C40)



Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).





MONITORING	BALEE-D09-32	ContaminantSeaf	ood - Contaminan	t levels – in seafood
PROGRAMME				
Introduction/overview of programme	The aim of the programme is to monitor the concentrations of contaminants in seafood (fishes in Estonian case). It provides data to monitoring strategy "SD9 – Contaminants in seafood" and is related to GES Descriptor D9, Criterion D9C1. The pressure levels in the environment and the contamination of the seafood for human consumption are assessed for the Estonian waters, both the coastal and the off-shore areas (ICES divisions). Fish samples are analysed for the following harmful substances: Pb, Cd, Hg, dioxins, PCBs. The program is coordinated on the EU level (EU food safety regulations) and relevant guidelines are followed. Not regionally coordinated by HELCOM. Food safety monitoring was a part of the programme "Contaminant level - in biota" in 2014, but a new separate programme was created in 2020 update. The programme corresponds to the following monitoring programmes in the indicative list: Contaminant levels - in species, including seafood.			
Purpose of programme		tate and impacts		ung sealoou.
r arpose or programme		marine environm		
	Effectiveness of		,	
Other EU or international	Foodstuffs Regu	lation		
policies to which				
programme contributes				
Monitoring details	Of the seafood, the most widely consumed fish in Estonia is analysed at the request of the Veterinary and Food Board. Additional studies on the content of contaminants in seafood are being carried out on a project basis. The monitoring is performed from herring, sprat, flounder, pikeperch, salmon, perch and river lamprey specimens at least once in the 6-year period, dioxins and PCBs should be preferably monitored annually.			
Ecosystem components,	Contaminants –			-
anthropogenic pressures	Elements	Lead and its cor	npounds	
and activities monitored	monitored	GES criteria addressed	D9C1 Contamina Parameters monitored	ants in seafood Concentration in biota – other
		Cadmium and its compounds GES criteria D9C1 Contaminants in seafood		
		GES criteria addressed	Parameters	Concentration in biota –
		auuresseu	monitored	other
		Mercury and its		other
		GES criteria	D9C1 Contamina	ants in seafood
		addressed	Parameters	Concentration in biota –
			monitored	other
			WHO-PCDD/F-TE	
		GES criteria	D9C1 Contamina	
		addressed	Parameters	Concentration in biota – other
		Diovins and dio	monitored	ls (7 PCDDs + 10 PCDFs + 12
		PCB-DLs)		
		GES criteria	D9C1 Contamina	ants in seafood
		addressed	Parameters	Concentration in biota –
			monitored	other
		Non-dioxin like PCB (sum of 6 PCB: 28, 52, 101, 138, 153 180)		
		GES criteria addressed	D9C1 Contamina	
			Parameters monitored	Concentration in biota – other
Spatial zones monitored	Territorial water	S,	mentored	
	EEZ (or similar)			





Start(and end) date of the	2002-9999
programme	
Frequency of the	Other (specify)
monitoring	
Type of monitoring	In-situ sampling offshore
Data management and	The data collected during the monitoring and reports are submitted to the
access	Veterinary and Food Board. The data are also stored at the Ministry of Rural
	Affairs (Chemical and Biological Food Safety Bureau) (the processed data are
	available).
Indicators to which the	BALEED9C1.1 - Concentration of lead in seafood,
programme contributes	BALEED9C1.2 - Concentration of cadmium in seafood,
	BALEED9C1.3 - Concentration of mercury in seafood,
	BALEED9C1.4 - Sum of dioxins (WHO-PCDD/F-TEQ) in seafood,
	BALEED9C1.5 - Dioxins and dioxin-like compounds (7 PCDDs + 10 PCDFs + 12
	PCB-DLs) in seafood,
	BALEED9C1.6 - Non-dioxin like PCB (sum of 6 PCB: 28, 52, 101, 138, 153 and
	180) in seafood
Contact	Ministry of Rural Affairs (Chemical and Biological Food Safety Bureau): Maia
	Radin: Maia.Radin@agri.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).



MONUTODINIC		Dedienvelidee		*
MONITORING	BALEE-DU809-33	_Radionuclides -	Radioactive subs	tances
PROGRAMME Introduction/overview of programme	substances in the "SD8 – Contamir The pressure lev of Finland as agr the samples colle Cs-137 and K-40 coordinated via HELCOM guidelin environmental n Combine). The programme indicative list: Co species, includin	e marine environ hants" and is related els and status are eed in HELCOM N ected from water concentrations. T HELCOM (data de hes are followed. honitoring databated corresponds to the pontaminant levels g seafood.	ment. It provides ted to GES Descri assessed for the AORS. Monitoring , sediments and I The program data livered separatel Data are yearly r ase KESE (by 1 Ma he following mon - in water/sedim	entrations of radioactive data to monitoring strategy ptor D8, Criterion D8C1. Estonian waters in the Gulf g is conducted yearly, and biota are analysed for a collection is regionally ly by each country) and the reported to the national arch) and ICES (HELCOM hitoring programmes in the nent; Contaminant levels - in only the code was changed.
Purpose of programme				, 0
Other EU or international policies to which programme contributes	Pressures in the marine environment HELCOM Monitoring programmes			
Monitoring details	Radioactive substances monitoring is carried out by the Environmental Board in the frame of national environmental monitoring programme (radiation monitoring sub-programme). Monitoring in seawater, biota (fish, bladderwrack) and sediments is carried out every year at designated sites and areas in the Gulf of Finland, and long-term data series are already available. Water samples and sediment samples are collected during off-shore monitoring cruises, benthic samples are collected separately and fish samples are obtained from professional fishermen (commercial fishing). The collection and analysis of samples are guided by the HELCOM MORS guidelines and the radiation monitoring sub-programme of the national environmental monitoring programme. Water samples from the Baltic Sea are collected from five stationary stations agreed in the framework of the HELCOM marine monitoring programme. The concentration of Cs-137 and K-40 in the surface water samples of the Gulf of Finland is determined by			g programme (radiation ter, biota (fish, year at designated sites and ries are already available. d during off-shore separately and fish samples ercial fishing). by the HELCOM MORS amme of the national aples from the Baltic Sea are the framework of the centration of Cs-137 and
Ecosystem components,	gamma spectron Contaminants - r	non UPBT substar	nces	
anthropogenic pressures	Elements	Cesium-137		
and activities monitored	monitored	GES criteria	D8C1 Contamin	ant in environment
		addressed	Parameters monitored	Concentration in biota (total), Concentration in sediment (total), Concentration in water
		K-40	D9C1 Cartani	ont in onvironment
		GES criteria addressed	D8C1 Contamin Parameters monitored	Ant in environment Concentration in biota (total), Concentration in sediment (total), Concentration in water
Spatial zones monitored	Coastal waters (Territorial water			
Start(and end) date of the programme	1997-9999			
Frequency of the monitoring	Yearly			





Type of monitoring	In-situ sampling coastal,
	In-situ sampling offshore
Data management and	The data collected during the monitoring are stored at the Environmental
access	Board but also submitted to the national monitoring database KESE.
	Monitoring data are reported to the HELCOM Combine database as well (and
	to the Helcom MORS working group).
Indicators to which the	BALEED8C1.63 - Cesium-137
programme contributes	
Contact	Environmental Board: Monika Lepasson:
	monika.lepasson@keskkonnaamet.ee;
	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).





MONUTODING					
MONITORING PROGRAMME	BALEE-D08-34_0	DilPollution - Oil s	spills		
Introduction/overview of programme	The aim of the programme is to detect oil spills in the Estonian marine waters. It provides data to monitoring strategy "SD8 – Contaminants" and is related to GES Descriptor D8, Criterion D8C3 (and D8C1). Data are gathered by regular				
	aerial surveillance flights and remote sensing. The extent, duration and volume of oil spills are estimated. The program is regionally coordinated and the HELCOM Response manual (Ch. 7: CO-OPERATION ON AERIAL				
	SURVEILLANCE OVER THE BALTIC SEA AREA) is followed. Data are yearly				
	reported to HEL	COM.			
	indicative list: Co	ontaminant inpu	ts – acute pollutio	nitoring programmes in the on events, incl. oil spills. , only the code was changed.	
Purpose of programme		marine environn		, only the code was changed.	
· · · · · · · · · · · · · · · · · · ·		s causing the pre	-		
	Effectiveness of	measures			
Other EU or international policies to which	International Co			llution from Ships, dness, Response and	
programme contributes	Co-operation,	oring programme	c		
				ation to pollution Incidents	
		nd Noxious Subst			
Monitoring details	Oil pollution is n	nonitored by the	Estonian Police a	nd Border Guard Board. The	
	remote observation is performed either by satellite or aerial surveys (ordered				
				f pollution. The satellite	
	-			the possible level of	
				and red – are distinguished on is detected, an aircraft or	
				regular flights conducted 2-3	
	times a week on certain routes. In case of flight monitoring during daylight				
	hours, the extent and volume of pollution shall be determined visually by the				
	operator in accordance with HELCOM methods. In the dark time, the radar				
	device provides information on the extent of the pollution. To detect oil pollution, satellite images are ordered and patrol flights are				
			-	ordinated with Finland by a	
	-			•	
	Memorandum of Understanding (MoU), under which the Gulf of Finland is covered by patrols even if one of the parties is unable to do so at some				
			-	ed only by Estonian patrol	
	flights.				
Ecosystem components,	Acute pollution				
anthropogenic pressures and activities monitored	Elements monitored	Not Applicable GES criteria	DBC2 Asuta as		
	monitored	addressed	D8C3 Acute po Parameters	Extent,	
		addressed	monitored	Amount on water surface	
Spatial zones monitored	Coastal waters (WFD),			
	Territorial waters,				
	EEZ (or similar)				
Start(and end) date of the programme	2000-9999				
Frequency of the monitoring	Continually				
Type of monitoring	Remote satellite				
Data management and	Remote surveilla				
Data management and	The data are sto	The data are stored at Joint Rescue Coordination Centre - JRCC Tallinn.			
access Contact	Maritime securit	ty centre (Joint R	escue Coordinati	on Centre - IRCC Tallinn)	
	Maritime security centre (Joint Rescue Coordination Centre - JRCC Tallinn): jrcc@politsei.ee.				





References	The monitoring programme is approved by the minister of the environment and available at https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres trateegia (https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202 6.pdf) (in Estonian).
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MONITORING	_		re - Birds – morta	lity due to oil pollution
PROGRAMME	(birds washed as			
Introduction/overview of		-	-	of oil pollution on water
programme	birds. It provides data to monitoring strategy "SD8 – Contaminants" and is related to GES Descriptor D8, Criteria D8C2 and D8C4, and potentially			
	provides data for monitoring strategy "SD1.1 – Biological diversity – Birds".			
	-	-		
	Data are gathered to assess the impact of human-induced pressures.			
	Monitoring is conducted twice a year (spring and autumn) by counting dead			
	birds washed ashore along the selected monitoring sites (on beaches). The			
	-		-	I, and data are reported as
		-		he monitoring program is
				orted to the national
		nonitoring databa		-
		-	-	toring programmes in the
	indicative list: M	obile species – m	ortality/injury rat	es from other human
	activities.			
				only the code was changed.
Purpose of programme		tate and impacts,		
	Pressures in the	marine environm	ent,	
	Effectiveness of	measures		
Other EU or international	Birds Directive			
policies to which				
programme contributes				
Monitoring details	_		-	esignated areas: in spring,
		-		Is have not left yet, and in
	autumn, usually in late October or early November, when the autumn			
	migration of birds is ending. In some monitoring areas additional winter and			
	spring observations have also been conducted at the initiative of observers.			
	The number of dead birds is characterized by the density (number of			
	individuals/km).			
	At certain monitoring area, all dead birds or their remains washed ashore are			
	counted. Residues that are difficult to determine are collected with reference			
	material for later determination.			
	In addition, dead seals found during the observations are recorded. The main			
	parameters obtained as a result of monitoring are the density of dead			
	waterbirds (individuals/ km) and the proportion of oil-stained waterbirds of all found waterbirds (%)			
	found waterbirds (%). The monitoring is carried out in frames of the national environmental			
	-			scape monitoring
		monitoring activi	•	
Ecosystem components,		on species or hab		
anthropogenic pressures	Elements	Not Applicable		
and activities monitored	monitored	GES criteria	D8C4 Adverse et	ffects of acute pollution
		addressed	events	p
			Parameters	Abundance (number of
			monitored	dead individuals, ind/km);
				Age distribution;
				Distribution (pattern);
				Proportion of oil-stained
				waterbirds of all found
				dead waterbirds (%); Sex;
				Presence of oil
				contamination on the
				body
	Input of litter (so	olid waste matter,	including micro-	-
	Elements	Not Applicable		/
	monitored	GES criteria	D10C4 Adverse	effects of litter





		addressed	Parameters monitored	Number of individuals, which are adversely	
				affected due to litter	
	Acute pollution	events			
	Elements	Not Applicable			
	monitored	GES criteria	D8C3 Acute poll	ution events	
		addressed	Parameters	Presence	
			monitored		
Spatial zones monitored	Coastal waters (WFD)			
Start(and end) date of the	1992-9999				
programme					
Frequency of the	Other (specify)				
monitoring					
Type of monitoring	Visual observation				
Data management and	Data and reports are yearly submitted to the national environmental				
access	monitoring database KESE.				
Contact	Estonian Environment Agency: Piret Kiristaja, piret.kiristaja@envir.ee;				
	Anastasiia Kovtu	In-Kante, anastas	iia.kovtun-kante@	envir.ee; Arthur Kivi,	
	arthur.kivi@env	ir.ee.			
References	The monitoring	programme is app	proved by the min	ister of the environment	
	and available at				
	https://www.en	vir.ee/et/eesmar	gid-tegevused/me	erekeskkonna-kaitse/meres	
	trateegia				
	(https://www.er	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202			
	6.pdf) (in Estonian).				



MONITORING		Aacrol itter - Mac	rolitter – characte	ristics and	
PROGRAMME	_	me on coast and		ansues and	
Introduction/overview of				ance of macrolitter and	
programme		-			
programme	litter items on the coast and at the seabed. It provides data to monitoring strategy "SD10 – Litter" and is related to GES Descriptor D10, Criterion D10C1.				
	Data are gathered to assess the pressure levels in the marine environment,				
	-			cy of measures. Seabed	
				-	
	litter monitoring is conducted yearly in some monitoring transects (in areas with human impact and background sites) or at least once during six years. For				
		-		e times a year. The	
		-	-	-	
	monitoring programme is regionally coordinated via HELCOM – the HELCO guidelines for monitoring of beach litter are followed (joint monitoring				
				egionally coordinated data	
				ely by each country and	
	-			nitoring of floating litter	
				ta are yearly reported to	
	-	-		ESE. The threshold values	
			-	be agreed at EU level.	
				toring programmes in the	
			-	e/volume on coast, water	
	surface, seabed.				
			d since 2014. mar	ine macrolitter monitoring	
			ats' transects now		
	programme was				
Purpose of programme		tate and impacts,			
		marine environm			
		causing the pres			
	Effectiveness of		,		
Other EU or international	HELCOM Monito	oring programmes	5,		
policies to which		Monitoring programme targeting at national legislation,			
programme contributes	Waste Framewo	rk Directive			
Monitoring details	Beach litter mon	itoring is conduct	ed annually at up	to 10 monitoring areas (in	
	case of rotation	at least once ever	ry 3 years). The an	nual monitoring includes	
	three observatio	n periods - spring	g, summer and aut	tumn.	
	The quantities of	f litter on the seal	bed are monitored	d on a project basis yet	
	(ordered by the	Ministry of the Er	vironment or the	Environment Agency), at	
			quantities of litter	are small.	
Ecosystem components,	Litter in the envi				
anthropogenic pressures	Elements	Macrolitter (all)			
and activities monitored	monitored	GES criteria		cluding micro-litter)	
		addressed	Parameters	Amount on coastline,	
			monitored	Amount on seabed,	
				Litter type and material;	
				Litter item	
Spatial zones monitored	Coastal waters (
	Territorial water	ς,			
	EEZ (or similar)				
Start(and end) date of the	2012-9999				
programme	Other (crossife)				
Frequency of the	Other (specify)				
monitoring	Viewal abcomention				
Type of monitoring	Visual observation,				
Data management and	Remote surveillance				
Data management and	The data and reports are submitted to the national environmental monitoring				
access	database KESE. Beach litter data are also reported to the EMODnet.				





Indicators to which the	BALEED10C1.2.1 - Macrolitter on seafloor in coastal sea [natural areas],
programme contributes	BALEED10C1.2.2 - Macrolitter on seafloor in coastal sea [areas affected by
	human activity],
	BALEED10C1.1 - Contamination ratio of beach litter
Contact	Estonian Environment Agency: Anastasiia Kovtun-Kante,
	anastasiia.kovtun-kante@envir.ee; Arthur Kivi, arthur.kivi@envir.ee.
References	The monitoring programme is approved by the minister of the environment
	and available at
	https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres
	trateegia
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202
	6.pdf) (in Estonian).



MONITORING		Aigralittar littar	micro particlos	abundanco in water	
MONITORING PROGRAMME Introduction/overview of programme	 BALEE-D10-37_MicroLitter - Litter micro-particles – abundance in water, sediment, and organisms The aim of the programme is to monitor the abundance of micro-particles in water (sea surface), sediments and marine organisms. It provides data to monitoring strategy "SD10 – Litter" and is related to GES Descriptor D10, Criterion D10C2, potentially as well D10C3 and D10C4. Data are gathered to assess the pressure levels in the marine environment, environmental status in coastal waters and off-shore sub-basins of the Baltic Sea (HELCOM sub-divisions), inputs of litter and effectiveness of measures. Monitoring is conducted yearly or at least once in six years with a seasonal coverage of three samplings a year for monitoring of micro-particles in water. Sampling from sediments is done once a year (rotation is used) and from organisms project-based researches are carried out. The program is not regionally coordinated, but HELCOM guidelines are under development. Data are yearly reported to the environmental monitoring database KESE (by 1 March). Threshold values for the indicators are preliminarily set, but need to be agreed regionally or at the European level (incl for criteria). The programme corresponds to the following monitoring programmes in the indicative list: Litter micro-particles - abundance/volume in water, sediment; Litter/micro-litter in biota. 				
			been changed s	ince 2014. micro-litter in	
			-	ed by the programme now.	
Purpose of programme	Environmental state and impacts, Pressures in the marine environment, Effectiveness of measures, Pressures at source				
Monitoring details			nd seabed sedim	ent sampling are	
Ecosystem components, anthropogenic pressures and activities monitored	conducted for monitoring the microlitter in the marine environment. For ingested microlitter monitoring, fish and mussels are collected. Micro-litter in the environment Elements monitored Artificial polymer materials GES criteria addressed D10C2 Micro-litter addressed Parameters monitored Amount in biota (ingested); Type of litter				
	Input of littor (cc	lid wasta mattar	including micro	Material; Amount	
	Elements	lid waste matter, Not Applicable	including micro-	sized inter)	
	monitored	GES criteria	D10C4 Adverse	effects of litter	
		addressed	Parameters monitored	Amount of microlitter; Litter type; Load	
Spatial zones monitored Start(and end) date of the	Coastal waters (WFD), Territorial waters, EEZ (or similar) 2016-9999				
programme					
Frequency of the	Yearly				
monitoring Type of monitoring	In-situ sampling coastal, In-situ sampling offshore				
D	The data and reports are submitted to the national environmental monitoring				
Data management and access	database KESE.				
	database KESE.		surface layer of	the water column,	
access	database KESE. BALEED10C2.1 - BALEED10C2.2 -	Microlitter in the Microlitter in seal	bed sediment,	the water column, d by marine animals	





References	The monitoring programme is approved by the minister of the environment and available at https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres trateegia (https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202 6.pdf) (in Estonian).
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MONITORING	BALEE-D11-38 A	cuteNoise - Impi	llsive underwater	noise – distribution	
PROGRAMME	BALEE-D11-38_AcuteNoise - Impulsive underwater noise – distribution, frequency and levels				
Introduction/overview of programme	frequency and levels The aim of the programme is to monitor the spatial and temporal distribution and levels of anthropogenic impulsive sound. It is related to GES Descriptor D11, Criterion D11C1 and monitoring strategy "SD11 – Underwater noise". Data are gathered to assess the duration per calendar year of impulsive sound sources in the ICES squares of the Baltic Sea. Monitoring is conducted yearly by collecting data on impulsive noise events. Data are collated from seismologic monitoring, registers of licenced events such as pile driving, controlled explosions from naval operations and other activities that release energy. The program data collection is regionally coordinated via HELCOM, but data are delivered by each country separately. Data are reported to the ICES impulsive noise event database once at the end of the year. The programme corresponds to the following monitoring programmes in the indicative list: Impulsive underwater noise - distribution, frequency and levels.				
				nly code has been changed.	
Purpose of programme		marine environm	,		
	Human activities	causing the pres	sures		
Monitoring details					
Ecosystem components,			pulsive, continuo	us)	
anthropogenic pressures	Elements	Not Applicable			
and activities monitored	monitored	GES criteria	D11C1 Anthropogenic impulsive sound		
		addressed	Parameters monitored	Number of disturbance days	
Spatial zones monitored	Coastal waters (WFD), Territorial waters, EEZ (or similar)				
Start(and end) date of the	2011-9999				
programme Frequency of the monitoring	Yearly				
Type of monitoring	Remote surveillance,				
	Administrative data collection				
Data management and		•		t database once at the end	
access			-	ed at the Geological Survey	
				toring database KESE.	
Contact				vil Engineering and	
			: aleksander.klau		
References		programme is app	proved by the min	hister of the environment	
	and available at			<i>.</i>	
	-	vir.ee/et/eesmar	gid-tegevused/me	erekeskkonna-kaitse/meres	
	trateegia				
	(https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202 6.pdf) (in Estonian).				



MONITORING			itinuous underwa	ter noise – distribution,		
PROGRAMME	frequency and le	The aim of the programme is to monitor the spatial and temporal distribution				
Introduction/overview of		-	-	-		
programme	of anthropogenic low-frequency continuous noise. It is related to GES					
	Descriptor D11, Criterion D11C2 and monitoring strategy "SD11 – Underwater					
	noise". Ambient sound is measured by autonomous submersible marine recorders. Monitoring is conducted continuously by 2-3 deployments per year					
		-				
	in one monitoring station and once per six years in additional monitoring					
	stations. Data are processed and presented as sound pressure level time					
	series that are further statistically analysed and used for the calibration of the sound propagation model. Modelling is aiming in the calculation of the					
	sound propagation model. Modelling is aiming in the calculation of the monthly soundscape maps to assess the spatial distribution of the ambient					
				coordinated via HELCOM		
				d the HELCOM guidelines		
		-		uous noise database once at		
	the end of the ye	-		adds holse database once at		
			ne following mon	itoring programmes in the		
			-	ibution, frequency and		
	levels.					
		and its code have	e been modified s	ince 2014, one site was		
				nts in the Gulf of Finland)		
		ed measurements				
Purpose of programme		marine environm				
	Human activities	s causing the pres	sures			
Monitoring details				ersible marine recorders -		
	15-45 minutes/h	our with recordir	ng frequency 24 k	Hz. Recordings are		
	-	-		nces of levels (%) that		
		temporal variabi	-			
	_			nuous underwater noise is		
		•		acting parties once in the		
	-			d as input and the model is		
Ecosystem components,		underwater noise ogenic sound (im				
anthropogenic pressures	Elements	Not Applicable	puisive, continuo	(d5)		
and activities monitored	monitored	GES criteria	D11C2 Anthrop	ogenic continuous		
		addressed	low-frequency s	-		
			Parameters	Sound pressure level		
			monitored			
Spatial zones monitored	Territorial water	·S,				
	EEZ (or similar),					
	Coastal waters (WFD)				
Start(and end) date of the	2014-9999					
programme						
Frequency of the	Continually					
monitoring Type of monitoring	Demoke even villen er					
Type of monitoring	Remote surveillance, Numerical modelling					
Data management and			llinn University of	f Technology, processed		
access						
	data are reported to ICES. Data reported to the ICES becomes available at the end of the monitoring year, modelled soundmaps - next year, by 1 of March.					
Indicators to which the		Sound pressure le				
programme contributes		I				
Contact	Tallinn Universit	y of Technology (Department of Ci	vil Engineering and		
			-	taltech.ee; Aleksander		
		der.klauson@talt				
	,		-			





References	The monitoring programme is approved by the minister of the environment and available at https://www.envir.ee/et/eesmargid-tegevused/merekeskkonna-kaitse/meres trateegia (https://www.envir.ee/sites/default/files/mereala_seireprogramm_2021_202 6.pdf) (in Estonian).
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MONITORING	RALEE-DOD-40 Marine And Coastal Activities Marine and coastal activities				
PROGRAMME	BALEE-D00-40_MarineAndCoastalActivities - Marine and coastal activities				
Introduction/overview of programme	The aim of the monitoring programme is to collect data on human activities that directly or indirectly impact the marine environment. The monitored human activities are those listed in the MSFD Annex III Table 2b (2017/845/EC) and relevant for point (c) of Article 8(1), and Articles 10 and 13. The following activities are covered: Coastal defence and flood protection; Offshore structures (other than for oil/gas/renewables); Restructuring of seabed morphology, including dredging and depositing of materials; Extraction of minerals; Extraction of oil and gas, including infrastructure; Extraction of water; Renewable energy generation (wind, wave and tidal power), including infrastructure; Transmission of electricity and communications (cables); Fish harvesting (professional, recreational); Fish and shellfish processing; Marine plant harvesting; Hunting and collecting for other purposes; Aquaculture — marine, including infrastructure; Transport infrastructure; Transport — shipping; Waste treatment and disposal; Tourism and leisure infrastructure; Tourism and leisure activities; Military operations and Research, survey and educational activities. Data are gathered at least once during a six-year assessment period, but in some cases also annually. The system of such data collection activities is still under development. The programme corresponds to the following monitoring programmes in the indicative list: Activities extracting living resources (fisheries including recreational, marine plant harvesting, hunting and collecting); Activities extracting non-living resources (sand, gravel, dredging); Activities producing food (aquaculture); Activities with permanent infrastructures (e.g. renewable energy, oil & gas, ports) or structural changes (e.g. coastal defences); Sea-based mobile activities (shipping, boating); Coastal human activities (e.g. tourism, recreational sports, ecotourism).				
Purpose of programme	2014. The code of the programme also changed. Pressures in the marine environment,				
	Pressures in the marine environment, Human activities causing the pressures, Pressures at source, Effectiveness of measures				
Other EU or international	Maritime Spatial Planning Directive, Monitoring programme targeting at national legislation				
policies to which programme contributes	Monitoring programme targeting at national legislation, Data Collection Framework Multi-Annual Plan (Common Fisheries Policy), Water Framework Directive, Urban Waste Water Treatment Directive, Nitrates Directive, National Emission Ceilings Directive, Stockholm Convention on persistent organic pollutions (POPs), Minamata Convention on Mercury, Convention on Long-Range Transboundary Air Pollution, International Convention for the Control and Management of Ships' Ballast Water and Sediments, Bathing Water Directive, Habitats Directive, Birds Directive				
Monitoring details	Coastal defence and flood protection				
Ecosystem components, anthropogenic pressures	Coastal defence and flood protection Elements Not Applicable				
and activities monitored	monitored GES criteria GES component not relevant				
	addressed Parameters monitored Length of defence structure; Coastline pressure index				
	Offshore structures (other than for oil/gas/renewables)				





Elements	Not Applicable		nat valavant	
monitored	GES criteria addressed	GES component		
	addressed	Parameters monitored	Area of structure; Area	
Restructuring (of seabed morpholy		pressure index dging and depositing of	
materials		Jgy, including the	uging and depositing of	
Elements	Not Applicable			
monitored	GES criteria	GES component not relevant		
monitored	addressed	Parameters	Soil volume; Extent; Area	
	addressed	monitored	pressure index	
Extraction of m	ninerals (rock, meta			
Elements	Not Applicable		,	
monitored	GES criteria	GES component	not relevant	
	addressed	Parameters	Mining volume; Mining	
		monitored	area; Area pressure index	
Extraction of o	il and gas, including			
Elements	Not Applicable			
monitored	GES criteria	GES component	not relevant	
	addressed	Parameters	Pipe length (area); Area	
		monitored	pressure index	
Extraction of w	vater			
Elements	Not Applicable			
monitored	GES criteria	GES component	not relevant	
	addressed	Parameters	Volume	
		monitored		
Renewable en	ergy generation (wi	ind, wave and tida	al power), including	
infrastructure				
Elements	Not Applicable			
monitored	GES criteria	GES component not relevant		
	addressed	Parameters	Area; Area pressure index	
		monitored		
Transmission c	of electricity and co	mmunications (ca	bles)	
Elements	Not Applicable	1		
monitored	GES criteria	GES component		
	addressed	Parameters	Cable length (area); Area	
		monitored	pressure index	
	ish harvesting (prof	essional, recreation	onal)	
Elements	Not Applicable			
monitored	GES criteria	GES component		
	addressed	Parameters	Catch; By-catch	
		monitored		
Marine plant h	-			
Elements	Not Applicable	0.50		
monitored	GES criteria	GES component		
	addressed	Parameters	Amount (kg); Area	
		monitored		
11	all a attine of a second			
	ollecting for other p	ourposes		
Elements	Not Applicable		n et esleve - 1	
	Not ApplicableGES criteria	GES component		
Elements	Not Applicable	GES component Parameters	Number of individuals	
Elements	Not ApplicableGES criteria	GES component	Number of individuals hunted by species	
Elements monitored	Not Applicable GES criteria addressed	GES component Parameters monitored	Number of individuals	
Elements monitored Aquaculture –	Not Applicable GES criteria addressed marine, including in	GES component Parameters monitored	Number of individuals hunted by species	
Elements monitored Aquaculture – Elements	Not Applicable GES criteria addressed marine, including in Not Applicable	GES component Parameters monitored	Number of individuals hunted by species (waterbirds, seals)	
Elements monitored Aquaculture –	Not Applicable GES criteria addressed marine, including in Not Applicable GES criteria	GES component Parameters monitored nfrastructure GES component	Number of individuals hunted by species (waterbirds, seals) not relevant	
Elements monitored Aquaculture – Elements	Not Applicable GES criteria addressed marine, including in Not Applicable	GES component Parameters monitored	Number of individuals hunted by species (waterbirds, seals)	





monitored	Not Applicable GES criteria	GES component not relevant		
	addressed	Parameters monitored	Area; Volume (goods and passengers); Number of load and unload operations supervision inspections (including	
			number of complaints)	
Transport – shi				
Elements	Not Applicable			
monitored	GES criteria addressed	GES component not relevant		
		Parameters monitored	Number of ships (incl. number of ships complying with international environmental requirements); Number of ports; Acute pollution incidents; Protection capacity; Plans on pollution control in ports and handling plans of ship-generated and carg waste	
	nt and disposal			
Elements	Not Applicable			
in a sait a sa d	CEC suit suis		a se a de se a l'a se se de	
monitored	GES criteria	GES component		
monitored	GES criteria addressed	GES component Parameters monitored	Areas of dumping sites and volume of dumped	
	addressed	Parameters monitored	Areas of dumping sites	
Tourism and lei	addressed	Parameters monitored	Areas of dumping sites and volume of dumped	
Tourism and lei Elements	addressed isure infrastructur Not Applicable	Parameters monitored	Areas of dumping sites and volume of dumped material	
Tourism and lei	addressed	Parameters monitored	Areas of dumping sites and volume of dumped material	
Tourism and lei Elements	addressed isure infrastructur Not Applicable GES criteria	Parameters monitored e GES component	Areas of dumping sites and volume of dumped material t not relevant Number of marinas per	
Tourism and lei Elements	addressed isure infrastructur Not Applicable GES criteria addressed	Parameters monitored e GES component Parameters	Areas of dumping sites and volume of dumped material t not relevant Number of marinas per	
Tourism and lei Elements monitored	addressed isure infrastructur Not Applicable GES criteria addressed	Parameters monitored e GES component Parameters	Areas of dumping sites and volume of dumped material t not relevant Number of marinas per	
Tourism and lei Elements monitored Tourism and lei	addressed addressed sure infrastructur GES criteria addressed sure activities Not Applicable GES criteria	Parameters monitored e GES component Parameters	Areas of dumping sites and volume of dumped material t not relevant Number of marinas per coastline; Length of beau t not relevant	
Tourism and lei Elements monitored Tourism and lei Elements	addressed addressed sure infrastructur GES criteria addressed sure activities Not Applicable	Parameters monitored e GES component Parameters monitored	Areas of dumping sites and volume of dumped material t not relevant Number of marinas per coastline; Length of beac t not relevant Number of vacationists; Number of visits; People environmental awarenes level; Number of	
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	Input of anthron	addressed	Parameters monitored	Volume of costs on marine researches; Number of researches; Number of use of scientific tools and equipment (sonars); Duration of use of scientific tools and equipment (sonars)		
	Input of anthropogenic sound (impulsive, continuous) Elements Not Applicable					
	monitored	GES criteria	GES component	not relevant		
	montorea	addressed	Parameters monitored	Level of sound, Number of disturbance days - Impulsive underwater noise; Sound pressure level - continuous underwater noise		
	Input of litter (se	olid waste matter	, including micro-s			
	Elements	Not Applicable				
	monitored	GES criteria	GES component	not relevant		
		addressed	Parameters monitored	Amount on coastline, Amount in water column, Amount on seabed, Amount in sediments; Litter type and material		
	Input of nutrient	ts – diffuse source	es, point sources,	atmospheric deposition		
	Elements	Not Applicable				
	monitored	GES criteria	GES component	not relevant		
		addressed	Parameters	Pollution load		
			monitored	(tonnes/year) - N, P, BHT5		
	Input of other substances (e.g. synthetic substances, non-synthetic substances, radionuclides) – diffuse sources, point sources, atmosphere deposition, acute events					
	Elements	Not Applicable	1			
	monitored	GES criteria	GES component			
		addressed	Parameters	Pollution load		
			monitored	(tonnes/year) - Hg, Cd,		
Spatial zones monitored	Coastal waters (WFD),Cu, Pb, Zn, Ni, CrTerritorial waters,EEZ (or similar)					
Start(and end) date of the	2015-9999					
programme Frequency of the monitoring	Other (specify)					
Type of monitoring	Administrative d	lata collection				
Data management and	The data are compiled from different databases of different institutions. The					
access	compilation and collection of data are coordinated by the Marine Environment Department of the Ministry of the Environment.					
References	The monitoring and available at https://www.en trateegia	programme is app vir.ee/et/eesmarp nvir.ee/sites/defa	proved by the min gid-tegevused/me	ister of the environment rekeskkonna-kaitse/meres seireprogramm_2021_202		