Baltic Sea unaffected by eutrophication

Environmental objectives

What is the goal?

The countries agree on a vision of a healthy Baltic Sea environment, including the goal of a sea unaffected by eutrophication, which is concretised in five objectives.

Clear waters

Concentrations of nutrients close to natural levels

Natural distribution and occurrence of plants and animals

Natural levels of algal blooms

Natural oxygen levels

Targets

What does that mean?

The objectives are quantified by target values for measurable indicators in the environment.

Secchi depth, summer (m):

Kattegat	7.6 ✓
Danish Straits	7.8 ✓
Baltic Proper	7.4 ✗
Bothnian Sea	6.8 ✗
Bothnian Bay	5.8 ✗
Gulf of Riga	5.0 ✗
Gulf of Finland	5.5 ✗

DIN / DIP winter (µmol/litre)

	DIN	DIP
Kattegat	5,0 ✗	0.49 ✗
Danish Straits	5.0 ✗	0.56 ✗
Baltic Proper	2,6 ✗	0.30 ✗
Bothnian Sea	2.8 ✗	0.19 ✗
Bothnian Bay	5.2 ✗	0.07 ✓
Gulf of Riga	5.2 ✗	0.41 ✗
Gulf of Finland	3.8 ✗	0.59 ✗

Chlorofyll *a*, summer (µg/litre)

Kattegat	1.5 ✓
Danish Straits	1.9 ✗
Baltic Proper	1.7 ✗
Bothnian Sea	1.5 ✗
Bothnian Bay	2.0 ✗
Gulf of Riga	2.7 ✗
Gulf of Finland	2.0 ✗

Oxygen debt, (mg/litre):

Kattegat	
Danish Straits	
Baltic Proper	6.4/8.7 ✗
Bothnian Sea	
Bothnian Bay	
Gulf of Riga	
Gulf of Finland	8.7 ✗

Maximum Allowable Inputs

What do we need to do to get there?

Scientists calculate the maximum annual nutrient inputs to the sea that allow the targets to eventually be met.

Maximum allowable inputs of nutrients

	Total nitrogen (tonnes)	Total phosphorus (tonnes)
Kattegat	74,000 ✓	1,687 ✓
Danish Straits	65,998 ✓	1,601 ✓
Baltic Proper	325,000 ✗	7,360 ✗
Bothnian Sea	79,372 ✓	2,773 ✓
Bothnian Bay	57,622 ✓	2,675 ✓
Gulf of Riga	88,417 ✗	2,020 ✗
Gulf of Finland	101,800 ✗	3,600 −

Nutrient Input Ceilings

Who should do what?

The total Maximum Allowable Inputs is divided among the countries, in proportion to their historical inputs.

Kattegat

	TN	TP
Germany	4,661 ✓	-
Denmark	28,538 ✓	815 ✓
Estonia	24 ✓	-
Finland	89 ✓	-
Lithuania	80 ✗	-
Latvia	34 ✗	-
Poland	1,443 ✓	-
Russia	245 −	-
Sweden	32,799 ✓	753 −

Danish Straits

	TN	TP
Germany	23,647 ✓	401 ✓
Denmark	28,067 ✓	979 ✓
Estonia	22 ✓	-
Finland	76 ✓	-
Lithuania	66 −	-
Latvia	31 ✓	-
Poland	1,480 ✓	-
Russia	238 ✓	-
Sweden	6,056 ✓	116 ✓

Baltic Proper

	TN	TP
Germany	34,077 ✗	109 ✗
Denmark	9,025 ✓	21 ✗
Estonia	1,478 ✓	9 ✗
Finland	1,827 ✓	-
Lithuania	25,878 ✗	703 ✗
Latvia	6,457 ✗	167 ✗
Poland	151,997 ✗	4,291 ✗
Russia	10,317 ✗	242 ✗
Sweden	30,690 ✗	318 ✗

Bothnian Sea

	TN	TP
Germany	3,920 ✓	-
Denmark	1,148 ✓	-
Estonia	404 ✓	-
Finland	28,700 ✓	1,246 ✗
Lithuania	495 ✗	-
Latvia	330 −	-
Poland	3,125 ✓	-
Russia	1,993 −	-
Sweden	32,633 ✓	1,133 ✓

Bothnian Bay

	TN	TP
Germany	947 ✓	-
Denmark	280 ✓	-
Estonia	113 ✓	-
Finland	35,087 −	1,683 ✓
Lithuania	108 ✓	-
Latvia	73 ✗	-
Poland	668 ✓	-
Russia	839 ✗	-
Sweden	17,718 ✓	811 −

Gulf of Riga

	TN	TP
Germany	1,747 ✓	-
Denmark	462 ✓	-
Estonia	13,099 −	185 ✗
Finland	295 ✓	-
Lithuania	8,820 ✗	175 ✓
Latvia	43,074 ✗	1,061 ✗
Poland	1,596 ✓	-
Russia	3,296 ✗	99 ✗
Sweden	525 ✓	-

Gulf of Finland

	TN	TP
Germany	1,645 ✓	-
Denmark	421 ✓	-
Estonia	11,334 ✗	225 ✗
Finland	20,457 ✗	315 ✗
Lithuania	305 ✓	-
Latvi	246 ✗	-
Poland	1,407 ✓	-
Russia	61,503 ✗	2,909 −
Sweden	626 ✓	-

Green check mark indicates that the target/ceiling is reached, a red cross indicates that it is not yet reached and a yellow hyphen means that inputs are below the ceiling, but the margin is less than the uncertainty. The classification of the fulfillment of the NIC by the countries is made by comparing the estimated inputs (including uncertainty) published by HELCOM with the updated BSAP NIC. Thus, this classification is unofficial and provisional pending a proper updated assessment by HELCOM.