Country report

Swedish bathing water quality in 2019

Sweden

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European Environment Agency

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Bathing water quality in the 2019 season

Sweden

Under the provisions of the Bathing Water Directive, more than 21 000 bathing waters are monitored in Europe each season. The monitoring data and other information regarding bathing water management are reported to the European Environment Agency by 30 European countries. These are then assessed for the annual European Bathing water report (European Bathing Water Briefing by 2020), published by the EEA, and more detailed national reports.

1. Bathing Water Directive reporting in the 2019 season

Bathing waters in the 2019 season	
Total reported	438
Coastal	244
Inland	194
First identified in 2019	3
Delisted in 2019	4
Total reported samples	2017

Bathing water quality in the 2019 season[1]	
Excellent	344 (78.5%)
Good	51 (11.6%)
Sufficient	11 (2.5%)
Poor	4 (0.9%)
Not classified	28 (6.4%)

Bathing waters are quality classified according to two microbiological parameters (Escherichia coli and Intestinal enterococci) defined in the Bathing Water Directive. Taking into account all reported bathing waters (including those that cannot be quality-classified), 92.7% of reported bathing waters are in line with the minimum quality standards of the Directive and are thus classified as 'sufficient' or better[1]. Four bathing waters are classified 'poor'.

More information is available at the **national bathing water portal:**

https://www.havochvatten.se/badplatsen

[1] Methodology problems by Sweden have affected the results; see section 3 for details.

2. Bathing Water Directive monitoring

Each bathing water identified by the reporting country must have a monitoring calendar, established before the bathing season. The monitoring calendar requirements can be summarised as follows: (1) a pre-season sample is to be taken shortly before the start of each bathing season; (2) no fewer than four (alternatively, three in specific cases) samples are to be taken and analysed per bathing season; and (3) an interval between sampling dates must never exceed one month.

From the reported data, the assessment also designates effective implementation of the monitoring calendar (Table 1).

Table 1: Bathing waters in 2019 according to implementation of the monitoring calendar

	Count	Share of total (%)
Monitoring calendar implemented A bathing water satisfies the monitoring calendar conditions listed above.	410	93.60
Monitoring calendar not implemented A bathing water does not satisfy the monitoring calendar conditions listed above. It may be quality-classified if enough samples are available in the last assessment period.	28	6.40

In addition to the monitoring calendar, management specifics of the last assessment period are also assessed. The resulting status primarily indicates whether the complete dataset for the four seasons is available, but also explains why the bathing waters do not have the complete dataset for the last assessment period. The latter may indicate developing conditions at the site — most importantly, whether the bathing water has been newly identified within the period, or whether any changes have occurred that are likely to affect the classification of the bathing water.

Table 2: Management specifics in the last assessment period of 2016–2019

	Count	Share of total (%)
Continuously monitored A bathing water has been monitored in each bathing season in the last assessment period.	434	99.10
Newly identified A bathing water was identified for the first time within the last assessment period. Such status is assigned for the full four years after being reported.	4	0.90
Quality changes A bathing water was subject to changes described in Bathing Water Directive Article 4.4 within the last assessment period. Such status is assigned for the full four years after being reported.	0	0.00
Monitoring gap A bathing water was not monitored for at least one season in the last assessment period. No quality classification is made if not enough samples are reported for the most recent season.	0	0

3. Bathing water quality

3.1 Change in analytical method affects bathing water classification in Sweden

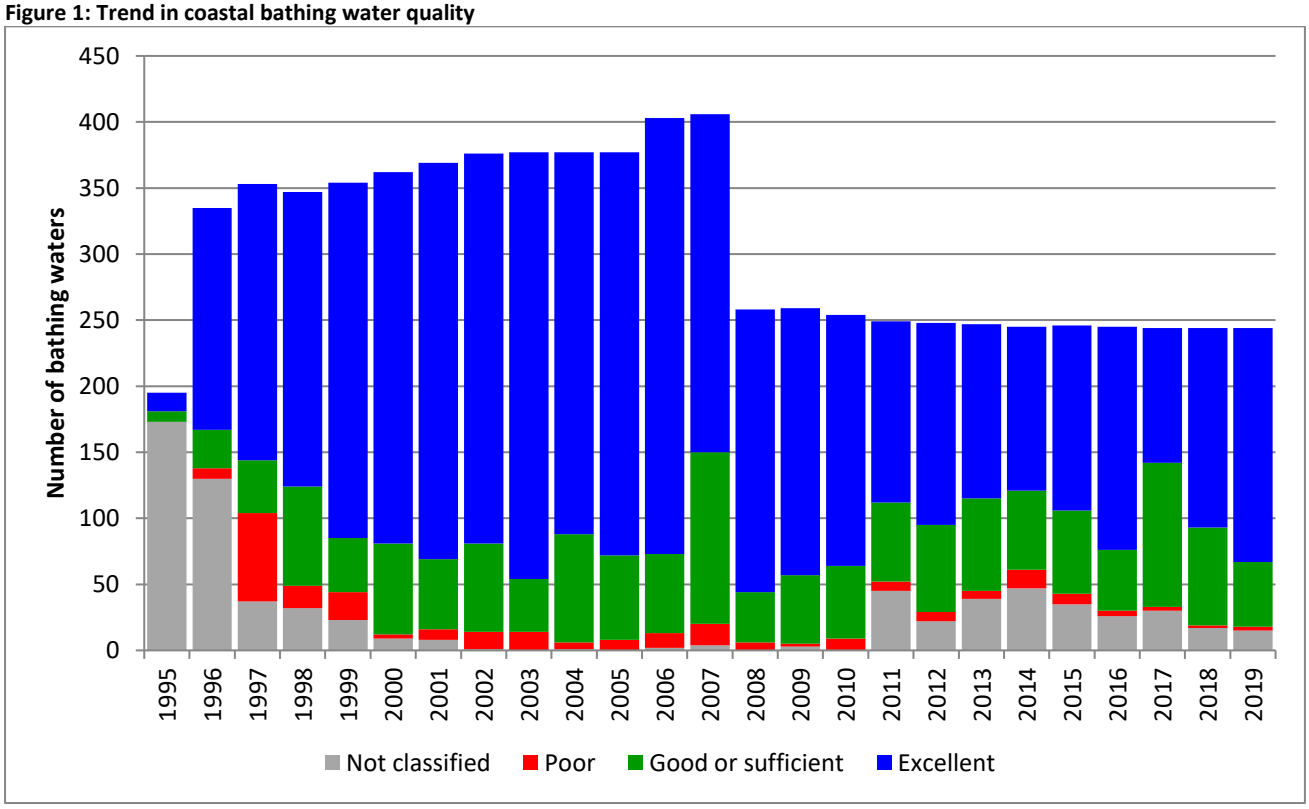
Bathing water classification for Sweden has been affected by the improved sensitivity of the analysis used for enumerating indicator bacteria. In 2017, some of the largest laboratories in Sweden changed methodology and levels of detection of faecal indicator organisms, from 50 colony forming units per 100 ml to 10 or 1 per 100 ml, which are also the most used limit of detection values through the EU Member States. In Sweden, the face value of samples below the limit of detection is used when calculating summary statistics for classification. Classification relies on an estimate the upper 90th or 95th percentile, calculated using the standard deviation of the set of samples.

When the lower limit of the dataset changed from 50 to 10 or 1 respectively, this led to a larger spread in the data. The standard deviation is a measure of the variability of a set of samples: the greater the apparent variation, the larger the estimate of the standard deviation. Subsequently, the estimate of the 90th or 95th percentile is higher with greater variation. For approximately 10 % of Swedish bathing waters this change in limit of detection led to class deterioration, although there is no indication of deterioration in water quality for these sites. Hence, in the national classifications, for the sites concerned, mean value and standard deviation were calculated so that this change in detection level would not influence the final classifications.

3.2 Coastal bathing waters

Coastal bathing waters are situated on the sea or transitional water coastline, with the respective parameter thresholds defined in Annex I of the Directive. They are subject to more strict thresholds than inland bathing waters. The quality trend for the period 1990–2019 (if historical data are available) is shown in Figure 1. The number of bathing waters by quality class for the last assessment period, 2016–2019, is given in Annex I Bathing water quality, 2016-2019.

Figure 1: Trend in coastal bathing water quality

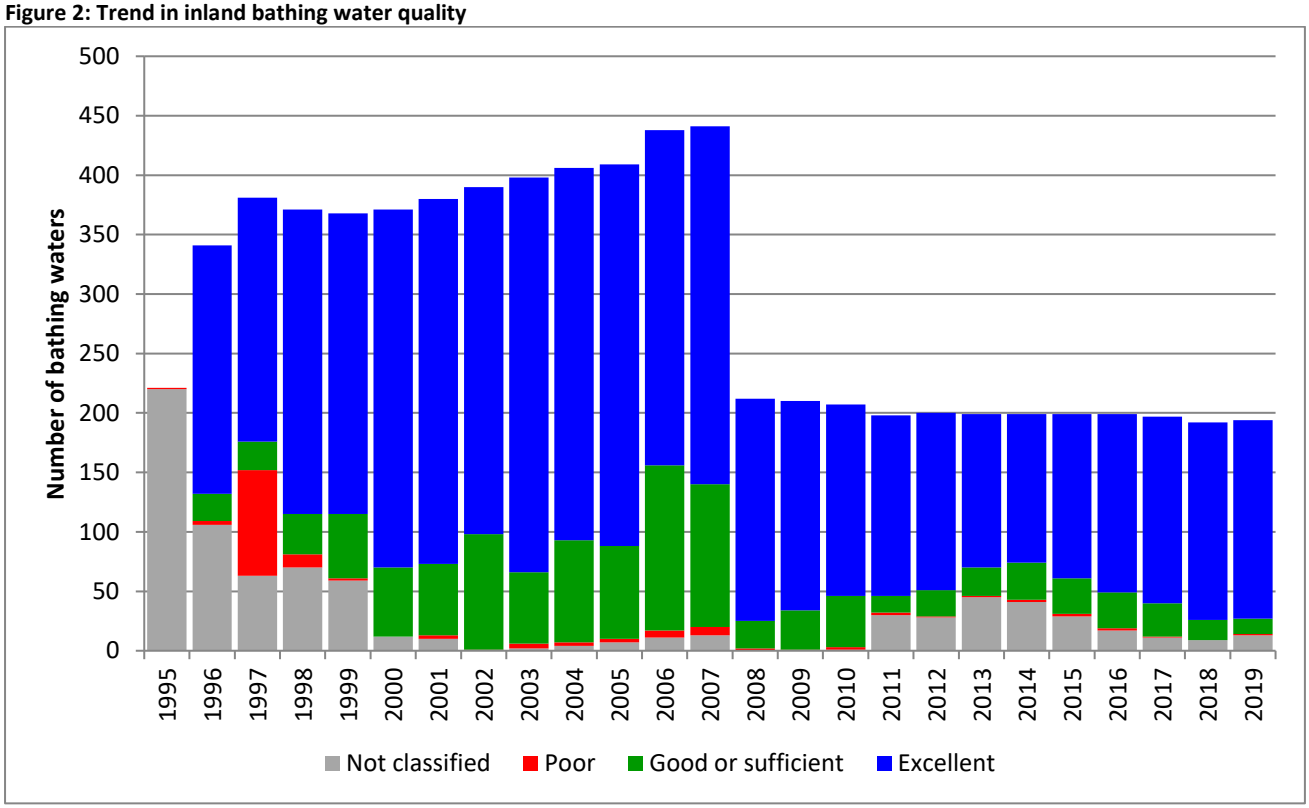


Notes: Each column represents an absolute number of bathing waters in the season. The 'good' and 'sufficient' quality classes are merged for comparability with the classifications under the preceding Bathing Water Directive 76/160/EEC.

3.3 Inland bathing waters

Inland bathing waters are situated at fresh water rivers and lakes that have the respective parameter thresholds as defined in Annex I of the Directive. The quality trend for the period 1990–2019 (if historical data are available) is shown in Figure 2. The number of bathing waters by quality class for the last assessment period, 2016–2019, is given in Annex I Bathing water quality, 2016-2019 .

Figure 2: Trend in inland bathing water quality



Notes: Each column represents an absolute number of bathing waters in the season. The 'good' and 'sufficient' quality classes are merged for comparability with the classifications under the preceding Bathing Water Directive 76/160/EEC.

Annex I Bathing water quality, 2016–2019

Table 3: Bathing water quality by water category and season[2]

		Total number of bathing waters	Excellent		Good		Sufficient		Poor		Not classified	
			Count	%	Count	%	Count	%	Count	%	Count	%
Coastal	2016	245	169	69.0	32	13.1	14	5.7	4	1.6	26	10.6
	2017	244	102	41.8	96	39.3	13	5.3	3	1.2	30	12.3
	2018	244	151	61.9	61	25.0	13	5.3	2	0.8	17	7.0
	2019	244	177	72.5	39	16.0	10	4.1	3	1.2	15	6.1
Inland	2016	199	150	75.4	27	13.6	3	1.5	2	1.0	17	8.5
	2017	197	157	79.7	27	13.7	1	0.5	1	0.5	11	5.6
	2018	192	166	86.5	17	8.9	0	0.0	0	0.0	9	4.7
	2019	194	167	86.1	12	6.2	1	0.5	1	0.5	13	6.7
Total	**2016**	**444**	**319**	**71.8**	**59**	**13.3**	**17**	**3.8**	**6**	**1.4**	**43**	**9.7**
	2017	**441**	**259**	**58.7**	**123**	**27.9**	**14**	**3.2**	**4**	**0.9**	**41**	**9.3**
	2018	**436**	**317**	**72.7**	**78**	**17.9**	**13**	**3.0**	**2**	**0.5**	**26**	**6.0**
	2019	**438**	**344**	**78.5**	**51**	**11.6**	**11**	**2.5**	**4**	**0.9**	**28**	**6.4**

[2] Methodology problems by Sweden have affected the results; see section 3 for details.

Annex II Bathing water quality map

Map 1: Bathing waters reported during the 2019 bathing season in Sweden

Source: National boundaries: EEA; Large rivers and lakes: EEA, WFD Article 3; Bathing waters data and coordinates: Swedish authorities; Digital Elevation Model over Europe (EU-DEM): EEA.