## Diatom Flora of the Low Countries

## Classification of ecological indicator values

(Van Dam Index)

In this Diatom Flora of the Low Countries the updated data of the Van Dam indices are based on the paper version: 'A coded checklist and ecological indicator values of freshwater diatoms from The Netherlands' by H. van Dam, A. Mertens & J. Sinkeldam in Netherlands Journal of Aquatic Ecology (1994) 28: 117-133.

The data can be used freely, but the authors should be acknowledged in reports and publications.

WARNING: Prior to calculations of weighted average values, all values of R = 6 and T = 7 (indifferent) should be set to R = - and T = - (unknown) respectively. Explanation of the figures are given in the table.

## **Table:** Classification of ecological indicator values (Van Dam Index)

R	1	acidobiontic	optimum by p			
pH	2	acidophyl circumneutral	mainly by pH mainly by pH			
	4	alkaliphyl	mainly by pH			
	5	alkalibiontic	exclusive by			
	6	indifferent	no clear pH-o			
H Salinity			Cl <sup>-</sup> (mg/l	)	Salinity (‰)	
Saminy	1	fresh	< 100		< 0,2	
	2	fresh-brackish	< 500		< 0,9	
	3	brackish -fresh	500 - 100	00	0,9 - 1,8	
	4	brackish	1000 - 50	00	1,8 - 9,0	
	5	brackish -marine	5000 - 100	000	9,0 – 18,0	
	6	marine- brackish	10000 - 170	000	18,0 - 30,0	
		marine	> 17000		> 30,0	
N		nitrogon outotrophio to	vo tolorant for vo	m. low concentration	a of organia bounded	
N Nitrogen ingestion	1 nitrogen autotrophic taxa, tolerant for very low concentrations of organic bounded nitrogen					
	2	nitrogen autotrophic taxa, tolerant for higher concentrations of organic bounded nitrogen				
	3	facultative nitrogen heterotrophic taxa, need periodical higher concentrations organic				
	4	bounded nitrogen				
	4	0 0	otropnic taxa, nee	ea permanent nigner	concentrations organic	
		bounded nitrogen				
^						
0	1	permanent high (aroun		n)		
Oxygen supply	2	rather high (above 75%		n)		
	2 3	rather high (above 75% moderate (above 50%	% saturation) saturation)	n)		
	2 3 4	rather high (above 75% moderate (above 50% low (above 30% satura	6 saturation) saturation) ition)	n)		
	2 3	rather high (above 75% moderate (above 50%	6 saturation) saturation) ition)	n)		
Oxygen supply	2 3 4	rather high (above 75% moderate (above 50% low (above 30% satura	6 saturation) saturation) tion) saturation)		BOD <sub>2</sub> 20 (mg/l)	
	2 3 4	rather high (above 75% moderate (above 50% low (above 30% satura	6 saturation) saturation) ition)	O <sub>2</sub> -saturation	BOD <sub>5</sub> <sup>20</sup> (mg/l)	
Oxygen supply S	2 3 4 5	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10%)	6 saturation) saturation) tion) saturation)  Water quality class	O <sub>2</sub> -saturation (%)		
Oxygen supply S	2 3 4 5 5	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic	6 saturation) saturation) stion) saturation)  Water quality class I, I-II	O <sub>2</sub> -saturation (%) > 85	< 2	
Oxygen supply S	2 3 4 5	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic β-meso saprobic	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II	O <sub>2</sub> -saturation (%) > 85 70- 85	< 2 2 - 4	
Oxygen supply S	2 3 4 5	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic β-meso saprobic α-meso saprobic	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II III	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70	< 2 2 - 4 4 -13	
Oxygen supply S	2 3 4 5	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic β-meso saprobic α-meso saprobic α-meso-/	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II	O <sub>2</sub> -saturation (%) > 85 70- 85	< 2 2 - 4	
Oxygen supply S	2 3 4 5	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic β-meso saprobic α-meso saprobic	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II III	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70	< 2 2 - 4 4 -13	
Oxygen supply  S Saprobic state	2 3 4 5	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic β-meso saprobic α-meso saprobic α-meso-/ poly saprobic poly saprobic	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II III III III-IV	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70 10 - 25	< 2 2 - 4 4 -13 13- 22	
Oxygen supply  S Saprobic state	2 3 4 5 1 2 3 4 5	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic β-meso saprobic α-meso-/ poly saprobic poly saprobic	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II III III III-IV	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70 10 - 25	< 2 2 - 4 4 -13 13- 22	
Oxygen supply  S Saprobic state	2 3 4 5 1 2 3 4 5	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic β-meso saprobic α-meso-/ poly saprobic poly saprobic Oligotraphentic oligo-mesotraphentic	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II III III III-IV	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70 10 - 25	< 2 2 - 4 4 -13 13- 22	
Oxygen supply  S Saprobic state	2 3 4 5 1 2 3 4 5	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic β-meso saprobic α-meso-/ poly saprobic poly saprobic poly saprobic Oligotraphentic oligo-mesotraphentic mesotraphentic	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II III III III-IV	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70 10 - 25	< 2 2 - 4 4 -13 13- 22	
Oxygen supply  S Saprobic state	1 2 3 4 5 5 1 2 3 4 4 5 5 1 2 3 4 4 5 1 2 3 4 4 1 1 2 1 2 3 4 4 1 1 2 1 2 1 2 1 3 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic α-meso saprobic α-meso-/ poly saprobic poly saprobic α-meso-/ poly saprobic α-meso-/ poly saprobic α-meso-weso-raphentic mesotraphentic meso-eutraphentic	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II III III III-IV	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70 10 - 25	< 2 2 - 4 4 -13 13- 22	
Oxygen supply  S Saprobic state	1 2 3 4 5 5 1 2 3 4 5 5 1 5 5 1 1 2 3 5 5 1 5 5 1 5 1 5 5 1 5 1 5 1 5 1 5 1	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% services) oligo saprobic α-meso saprobic α-meso-/ poly saprobic poly saprobic α-mesotraphentic mesor-aphentic meso-eutraphentic eutraphentic	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II III III III-IV	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70 10 - 25	< 2 2 - 4 4 -13 13- 22	
Oxygen supply  S Saprobic state	1 2 3 4 5 5 1 2 3 4 4 5 5 1 2 3 4 4 5 1 2 3 4 4 1 1 2 1 2 3 4 4 1 1 2 1 2 1 2 1 3 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% soligo saprobic α-meso saprobic α-meso-/ poly saprobic poly saprobic α-meso-/ poly saprobic α-meso-/ poly saprobic α-meso-weso-raphentic mesotraphentic meso-eutraphentic	6 saturation) saturation) stion) saturation)  Water quality class  I, I-II II III III III-IV	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70 10 - 25	< 2 2 - 4 4 -13 13- 22	
Oxygen supply  S Saprobic state  T Trophic state	1 2 3 4 5 5 5 6 6 7 7	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% service) oligo saprobic α-meso saprobic α-meso-/ poly saprobic poly saprobic oligo-mesotraphentic mesotraphentic meso-eutraphentic eutraphentic hypereutraphentic indifferent	6 saturation) saturation) sturation) sturation)  Water quality class  I, I-II II III III III IV IV	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70 10 - 25 < 10	< 2 2 - 4 4 -13 13- 22	
Oxygen supply  S Saprobic state  T Trophic state	1 2 3 4 5 5 5 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% service) oligo saprobic β-meso saprobic α-meso-/ poly saprobic poly saprobic poly saprobic oligo-mesotraphentic mesotraphentic meso-eutraphentic eutraphentic indifferent	6 saturation) saturation) sturation) sturation)  Water quality class  I, I-II III III-IV IV	O <sub>2</sub> -saturation (%) > 85 70- 85 25 - 70 10 - 25 < 10	< 2 2 - 4 4 - 13 13 - 22 > 22	
Oxygen supply  S Saprobic state  T Trophic state	1 2 3 4 5 5 1 2 3 4 4 5 6 6 7 1 2 1 2	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% service) oligo saprobic β-meso saprobic α-meso-/ poly saprobic poly saprobic oligo-mesotraphentic mesotraphentic meso-eutraphentic eutraphentic hypereutraphentic indifferent	6 saturation) saturation) sturation) water quality class I, I-II II III III-IV IV	O <sub>2</sub> -saturation (%)  > 85 70- 85 25 - 70 10 - 25  < 10  bodies etimes also on humic	< 2 2 - 4 4 -13 13-22 > 22	
Oxygen supply  S Saprobic state  T Trophic state	1 2 3 4 5 5 5 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	rather high (above 75% moderate (above 50% low (above 30% satura very low (around 10% service) oligo saprobic β-meso saprobic α-meso-/ poly saprobic poly saprobic poly saprobic oligo-mesotraphentic mesotraphentic meso-eutraphentic eutraphentic indifferent	6 saturation) saturation) tion) saturation)  Water quality class  I, I-II II III III-IV IV  ely outside water rbodies, but some rbodies, but regul	O <sub>2</sub> -saturation (%)  > 85 70- 85 25 - 70 10 - 25  < 10  bodies etimes also on humicarly also on wet and	< 2	