

**Table S3:** Transcript (cDNA; mRNA copy) abundance detected in sediments of all stations in March and August.

Station	Sediment depth [cm]	<i>nirS</i> gene denitrifying bacteria cDNA [copy g <sup>-1</sup> ]		16S rRNA gene anammox bacteria cDNA [copy g <sup>-1</sup> ]		<i>aprA</i> gene SOB and SRB cDNA [copy g <sup>-1</sup> ]	
		March	August	March	August	March	August
		1	0–1	$1.8 \times 10^2$	n.d.	$1.9 \times 10^5$	$8.1 \times 10^5$
1–2	$1.1 \times 10^4$		n.d.	$1.8 \times 10^5$	$1.3 \times 10^3$	n.d.	n.d.
2–3	n.d.		$1.0 \times 10^2$	$1.0 \times 10^5$	$2.8 \times 10^5$	$5.4 \times 10^2$	$2.5 \times 10^4$
3–4	n.d.		n.d.	$6.5 \times 10^4$	$6.9 \times 10^5$	n.d.	$1.1 \times 10^4$
4–5	n.d.		n.d.	$2.5 \times 10^4$	$2.3 \times 10^5$	n.d.	n.d.
2	0–1	$1.9 \times 10^2$	n.d.	$8.5 \times 10^4$	$3.0 \times 10^5$	n.d.	n.d.
	1–2	$1.5 \times 10^3$	n.d.	$6.0 \times 10^5$	$1.1 \times 10^6$	$7.0 \times 10^3$	$7.4 \times 10^2$
	2–3	$6.7 \times 10^2$	n.d.	$9.6 \times 10^5$	$1.7 \times 10^6$	$1.4 \times 10^4$	$3.4 \times 10^3$
	3–4	n.d.	n.d.	$1.9 \times 10^5$	$1.3 \times 10^5$	$1.6 \times 10^3$	$5.9 \times 10^2$
	4–5	n.d.	n.d.	$4.8 \times 10^4$	$5.5 \times 10^4$	n.d.	n.d.
3	0–1	$1.5 \times 10^2$	n.d.	$4.9 \times 10^6$	$2.9 \times 10^5$	n.d.	n.d.
	1–2	n.d.	$1.1 \times 10^2$	$3.1 \times 10^6$	$5.1 \times 10^6$	$3.5 \times 10^3$	$1.8 \times 10^4$
	2–3	n.d.	n.d.	$4.1 \times 10^5$	$3.1 \times 10^6$	$5.0 \times 10^2$	$4.3 \times 10^2$
	3–4	n.d.	$1.8 \times 10^3$	$2.2 \times 10^5$	$1.3 \times 10^5$	$1.4 \times 10^3$	$3.7 \times 10^3$
	4–5	n.d.	n.d.	$8.5 \times 10^4$	$3.7 \times 10^4$	n.d.	n.d.

qPCR conditions: 95°C 4 min; 40 × [95°C 30 s, Tm 40 s, 72°C 30 s]; 80°C 25 s. nd: non detectable, i.e. values were under the detection limit of the qPCR approach.