

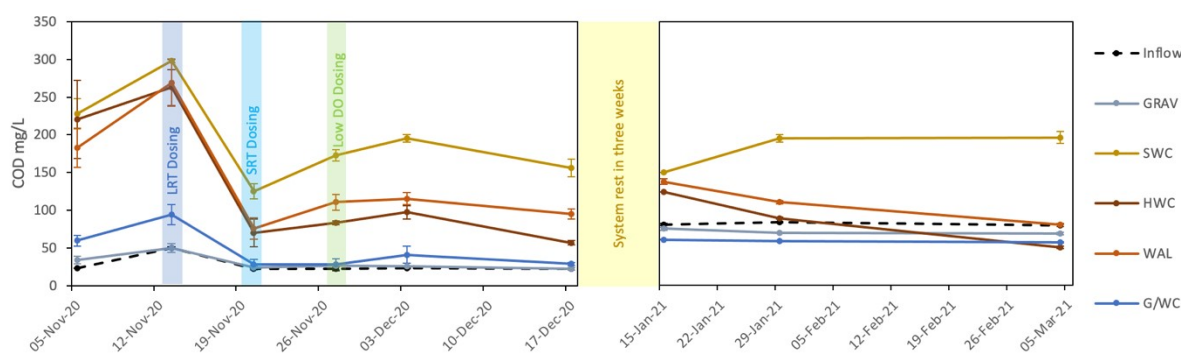
1 Vegetated biofiltration system for removing nitrogen in wastewater:
 2 the role of saturated zone and microbial communities

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 5 Ana Deletic

6 Supplementary information

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 8 **Table S1** The characteristics for electron donors used in this study.

Materials	Bulk density (g/mL)	Porosity (%)
Walnut shells	0.713	54
Softwood chips	0.276	61.1
Hardwood chips	0.244	66.7

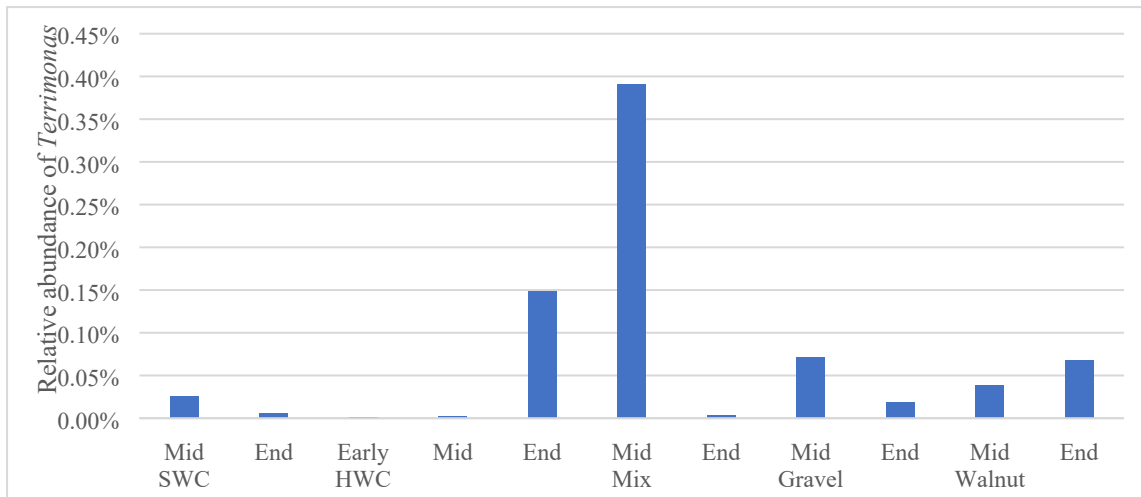


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 12 **Figure S1** Mean COD concentration with stand deviation for inflow and different outflows (GRAV,
 13 SWC, HWC, WAL and G/WC MIX). Sampling run 1-6 is denitrification and 7-9 is mimic anammox. For
 14 denitrification, standard means 2 days retention and $DO < 3$; LRT (long retention time) means 4 days
 15 retention; SRT (short retention time) means 1 day retention; Low DO means $DO < 1$ mg/L. For mimic
 16 anammox, standard means 2 days retention and $DO < 1$ mg/L.

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 18 **Table S2** 16S Alpha Diversity across different media used in columns.

Media	Faith PD		Pielou's evenness		Observed features	
	Mean	SD	Mean	SD	Mean	SD
SWC	68.6	7.3	0.75	0.01	1182.0	43.6
HWC	60.1	6.1	0.73	0.03	1054.3	94.8
MIX	62.1	4.7	0.75	0.03	1066.7	114.7
Gravel	46.1	7.5	0.65	0.03	655.0	139.0
Walnut	49.9	49.9	0.68	0.68	611.7	611.7

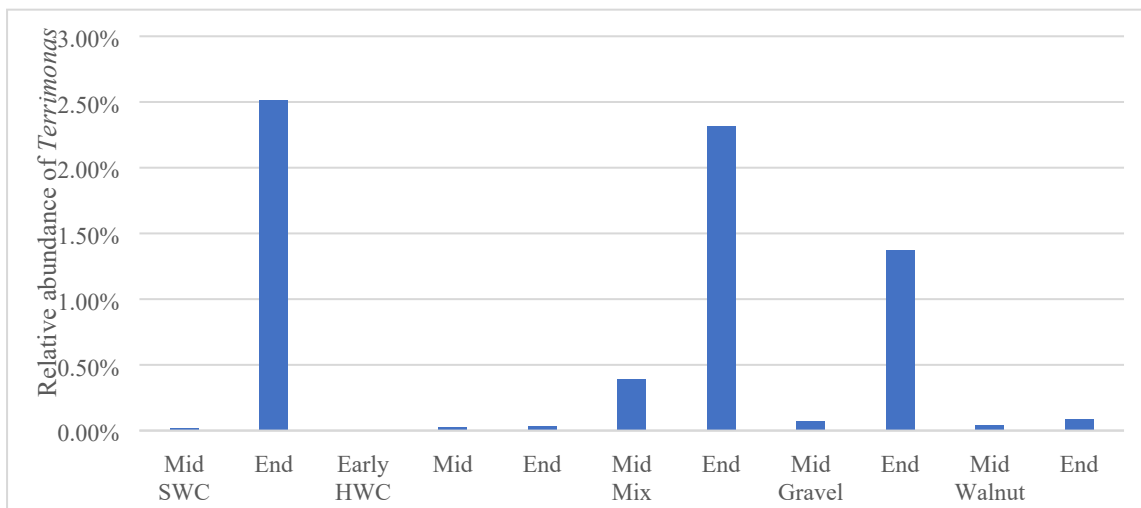
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21 **Figure S2** Abundance of SM1A02 in different media types over time. Early – media sample collected
 22 from week3 of the experiment (early stage of denitrification phase), Mid - media sample collected from
 23 week9 of the experiment (end of denitrification phase), End - media sample collected from week20 of
 24 the experiment (end of the anammox phase).

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27 **Figure S3** Abundance of Terrimonas in different media types over time. Early – media sample collected
 28 from week3 of the experiment (early stage of denitrification phase), Mid - media sample collected from
 29 week9 of the experiment (end of denitrification phase), End - media sample collected from week20 of
 30 the experiment (end of the anammox phase).