

T. R. Marwick et al. (2013) Dynamic Seasonal Nitrogen Cycling in Response to Anthropogenic N-Loading in a Tropical Catchment, Athi-Galana-Sabaki River, Kenya.

Supplementary Table 1: Overview of surface water temperature, dissolved O<sub>2</sub>, pH, conductivity, total alkalinity (TA), NH<sub>4</sub><sup>+</sup>, NO<sub>3</sub><sup>-</sup>, dissolved N<sub>2</sub>O, dissolved CH<sub>4</sub>, δ<sup>15</sup>N<sub>PN</sub>, δ<sup>18</sup>O<sub>H<sub>2</sub>O</sub>, pelagic PP, community R, TSM, POC, POC:PN and %POC:TSM for the different sampling sites during the dry season sampling campaign in the Athi-Galana-Sabaki catchment (note: *n.m.* = not measured).

#	Site Name	Date	Latitude (decimal)	Longitude (decimal)	Altitude (m)	t° (°C)	O <sub>2</sub> (%)	pH (NBS)	Conductivity (μS cm <sup>-1</sup> )	TA (mmol kg <sup>-1</sup> )	NH <sub>4</sub> <sup>+</sup> (μmol L <sup>-1</sup> )	NO <sub>3</sub> <sup>-</sup> (μmol L <sup>-1</sup> )
Main Channel												
S1	Athi River @ Fourteen Falls	28/08/2011	-1.0776	37.2525	1410	20.8	36.1	7.66	664	2.16	1192.9	1.9
S2	Athi River @ Yatta	29/08/2011	-1.2335	37.4660	1182	21.1	37.2	7.25	612	2.76	180.8	857.6
S3	Athi River @ Wamunyu	29/08/2011	-1.4156	37.6469	1069	24.7	142.5	9.15	607	2.77	18.7	778.5
S4	Athi River @ Kavumbu	30/08/2011	-1.6146	37.7853	941	25.2	109.9	8.51	617	2.92	17.2	752.8
S5	Athi River @ Nzeveni	31/08/2011	-1.9060	37.9067	823	26.0	115.7	8.68	621	3.01	16.8	602.1
S6	Athi River @ Kiaoni	31/08/2011	-2.2011	38.0573	710	29.1	119.4	9.09	645	3.13	15.6	516.7
S11	Athi River @ Tsavo Safari Camp	4/09/2011	-2.6697	38.3821	493	26.8	142.0	9.53	721	3.87	19.1	196.1
S13	Athi River @ Pattersons Lodge	5/09/2011	-2.9425	38.4890	447	24.3	154.2	9.81	728	4.05	16.9	1.7
S14	Galana River @ Luggard Falls	5/09/2011	-3.0403	38.6961	333	29.5	118.9	9.61	629	3.90	15.1	1.1
S15	Galana River @ Hippo Point	6/09/2011	-3.0464	38.9055	232	28.5	113.8	9.43	710	4.53	18.1	1.1
S16	Galana River @ Sala	6/09/2011	-3.0763	39.1699	171	28.8	124.9	9.50	702	3.73	17.0	0.2
S17	Galana River @ Kiboko Lodge	7/09/2011	-3.0689	39.2944	140	27.7	123.5	9.33	756	4.29	15.9	0.4
S18	Galana River @ Chakahola	7/09/2011	-3.1062	39.5539	76	30.9	122.9	9.19	772	4.36	14.8	0.5
S19	Galana River @ Kakoneni	8/09/2011	-3.1429	39.8518	36	30.8	123.5	9.03	811	4.64	15.1	2.1
S20	Sabaki River	10/09/2011	-3.1443	40.1084	0	31.9	136.8	9.03	864	4.97	13.8	2.4
Tributaries												
S7	Mzima Spring	2/09/2011	-2.9842	38.0231	693	24.6	93.6	7.74	547	4.82	19.4	46.1
S8	Mzima River	2/09/2011	-3.0155	38.0288	656	24.7	102.0	8.38	521	4.61	19.9	39.9
S9	Ziwani River	3/09/2011	-3.0256	38.0408	653	22.9	105.7	8.96	957	8.60	19.8	37.0
S10	Tsavo River (Tsavo West)	3/09/2011	-3.0463	38.1038	620	24.5	103.1	8.63	584	5.20	19.9	37.7
S12	Tsavo River @ Mombassa Rd	4/09/2011	-2.9946	38.4608	466	26.8	103.2	8.86	633	5.29	18.8	37.7

Supplementary Table 1 (cont.)

#	Site Name	Date	N <sub>2</sub> O (nmol L <sup>-1</sup> )	CH <sub>4</sub> (nmol L <sup>-1</sup> )	δ <sup>15</sup> N <sub>PN</sub> (‰)	δ <sup>18</sup> O <sub>H<sub>2</sub>O</sub> (‰)	Pelagic PP (μmol L <sup>-1</sup> h <sup>-1</sup> )	Community R (μmol L <sup>-1</sup> h <sup>-1</sup> )	TSM (mg L <sup>-1</sup> )	POC (mg L <sup>-1</sup> )	POC:PN (-)	%POC (-)
Main Channel												
S1	Athi River @ Fourteen Falls	28/08/2011	17.5	3765.5	3.1	-3.9	39.39 ± 3.42	2.75 ± 0.13	54.8	17.3	5.3	31.5
S2	Athi River @ Yatta	29/08/2011	195.9	335.7	13.9	-3.7	2.39 ± 0.01	1.49 ± 0.26	15.3	3.9	6.0	25.8
S3	Athi River @ Wamunyu	29/08/2011	17.8	83.8	19.3	-2.7	3.67 ± 0.25	1.21 ± 0.07	18.4	3.3	8.0	17.8
S4	Athi River @ Kavumbu	30/08/2011	15.0	142.3	18.7	-2.7	10.08 ± 0.28	0.79 ± 0.07	24.6	3.0	7.7	12.1
S5	Athi River @ Nzeveni	31/08/2011	13.4	176.3	18.6	-2.1	11.02 ± 1.49	2.11 ± 0.14	47.1	3.2	6.8	6.8
S6	Athi River @ Kiaoni	31/08/2011	9.5	200.5	20.4	-1.7	24.64 ± 0.52	2.65 ± 0.11	42.6	4.0	7.2	9.3
S11	Athi River @ Tsavo Safari Camp	4/09/2011	7.6	81.1	25.9	-0.8	91.56 ± 2.39	8.45 ± 2.80	50.3	12.2	6.6	24.2
S13	Athi River @ Pattersons Lodge	5/09/2011	8.2	166.4	31.5	-0.3	180.00 ± 61.33	12.95 ± 0.70	67.3	20.3	6.5	30.2
S14	Galana River @ Luggard Falls	5/09/2011	6.5	80.1	24.2	-0.8	131.46 ± 11.56	8.51 ± 0.09	131.6	21.2	10.5	16.1
S15	Galana River @ Hippo Point	6/09/2011	8.1	116.1	23.2	-3.9	<i>n.m.</i>	9.39 ± 0.65	160.4	23.2	9.7	14.5
S16	Galana River @ Sala	6/09/2011	6.7	466.1	22.6	-2.3	95.91 ± 6.91	9.58 ± 0.20	136.7	36.3	11.7	26.6
S17	Galana River @ Kiboko Lodge	7/09/2011	6.9	259.0	21.5	-0.4	92.98 ± 4.50	9.71 ± 0.80	242.5	32.9	11.9	13.6
S18	Galana River @ Chakahola	7/09/2011	6.0	840.1	20.5	0.1	64.11 ± 2.83	8.36 ± 0.15	203.0	32.0	12.4	15.7
S19	Galana River @ Kakoneni	8/09/2011	6.0	716.3	18.9	0.6	66.14 ± 6.71	9.50 ± 0.56	168.5	27.5	11.6	16.3
S20	Sabaki River	10/09/2011	6.3	1092.0	17.0	0.2	48.79 ± 4.55	6.17 ± 0.75	143.5	16.2	12.2	11.3
Tributaries												
S7	Mzima Spring	2/09/2011	8.0	3.9	4.6	-4.2	0.09 ± 0.02	0.28 ± 0.21	0.3	0.1	21.2	25.7
S8	Mzima River	2/09/2011	7.6	570.7	4.5	-4.4	0.25 ± 0.01	1.26 ± 0.48	3.8	0.6	13.0	16.9
S9	Ziwani River	3/09/2011	7.0	79.0	6.2	-4.8	1.10 ± 0.46	2.35 ± 0.85	61.3	1.3	9.5	2.2
S10	Tsavo River (Tsavo West)	3/09/2011	7.0	194.8	5.8	-5.3	0.27 ± 0.13	5.63 ± 3.06	38.3	1.5	11.0	3.9
S12	Tsavo River @ Mombassa Rd	4/09/2011	8.9	47.3	8.8	-4.4	1.37 ± 0.07	2.36 ± 0.87	102.3	3.0	10.9	2.9

Supplementary Table 2: Overview of surface water temperature, dissolved O<sub>2</sub>, pH, conductivity, total alkalinity (TA), NH<sub>4</sub><sup>+</sup>, NO<sub>3</sub><sup>-</sup>, dissolved N<sub>2</sub>O, dissolved CH<sub>4</sub>, δ<sup>15</sup>N<sub>PN</sub>, δ<sup>18</sup>O<sub>H<sub>2</sub>O</sub>, pelagic PP, community R, TSM, POC, POC:PN and %POC:TSM for the different sampling sites during the short rain season (Oct.-Dec.: OND) sampling campaign in the Athi-Galana-Sabaki catchment (note: *d.l.*= below detection limit; *n.m.*= not measured).

#	Site Name	Date	Latitude (decimal)	Longitude (decimal)	Altitude (m)	t° (°C)	O <sub>2</sub> (%)	pH (NBS)	Conductivity (μS cm <sup>-1</sup> )	TA (mmol kg <sup>-1</sup> )	NH <sub>4</sub> <sup>+</sup> (μmol L <sup>-1</sup> )	NO <sub>3</sub> <sup>-</sup> (μmol L <sup>-1</sup> )
Main Channel												
S1	Athi River @ Fourteen Falls	1/11/2011	-1.0776	37.2525	1410	21.5	56.0	7.48	353	1.53	309.7	120.2
S2	Athi River @ Yatta	1/11/2011	-1.2335	37.4660	1182	24.1	70.4	7.26	362	1.51	78.8	432.4
S3	Athi River @ Wamunyu	3/11/2011	-1.4156	37.6469	1069	22.7	93.4	7.56	301	1.11	4.9	318.0
S4	Athi River @ Kavumbu	5/11/2011	-1.6146	37.7853	941	26.9	103.1	8.27	343	1.48	5.1	393.4
S5	Athi River @ Nzeveni	20/11/2011	-1.9060	37.9067	823	24.5	101.3	7.24	203	0.85	1.9	134.1
S6	Athi River @ Kiaoni	19/11/2011	-2.2011	38.0573	710	25.6	103.5	7.81	307	1.10	4.4	299.0
S11	Athi River @ Tsavo Safari Camp	17/11/2011	-2.6697	38.3821	493	27.8	105.6	8.03	432	3.18	1.9	216.0
S13	Athi River @ Pattersons Lodge	17/11/2011	-2.9425	38.4890	447	27.5	99.4	7.33	418	1.52	0.9	193.3
S14	Galana River @ Luggard Falls	12/11/2011	-3.0403	38.6961	333	30.0	106.0	7.96	321	1.58	5.9	178.6
S15	Galana River @ Hippo Point	12/11/2011	-3.0464	38.9055	232	31.9	106.4	7.88	332	1.58	4.4	207.5
S16	Galana River @ Sala	13/11/2011	-3.0763	39.1699	171	28.5	101.0	7.86	351	1.67	9.2	207.6
S17	Galana River @ Kiboko Lodge	11/11/2011	-3.0689	39.2944	140	27.7	102.3	8.12	298	1.96	2.3	303.7
S18	Galana River @ Chakahola	10/11/2011	-3.1062	39.5539	76	29.7	89.3	8.04	456	2.14	3.0	267.5
S19	Galana River @ Kakoeni	10/11/2011	-3.1429	39.8518	36	30.4	98.9	8.11	473	2.19	2.4	436.8
S20	Sabaki River	9/11/2011	-3.1443	40.1084	0	30.2	94.3	8.06	569	2.50	3.1	537.6
Tributaries												
S7	Mzima Spring	15/11/2011	-2.9842	38.0231	693	24.6	100.5	7.43	548	4.82	0.4	42.7
S8	Mzima River	15/11/2011	-3.0155	38.0288	656	25.5	107.6	8.22	520	4.58	3.4	40.3
S9	Ziwani River	16/11/2011	-3.0256	38.0408	653	25.6	107.9	8.38	365	2.35	2.6	67.8
S10	Tsavo River (Tsavo West)	16/11/2011	-3.0463	38.1038	620	23.5	91.4	7.87	457	3.30	1.3	44.1
S12	Tsavo River @ Mombassa Rd	14/11/2011	-2.9946	38.4608	466	29.9	108.1	8.57	625	5.04	1.7	54.6
S21	Katingani River	3/11/2011	-1.5671	37.5488	1175	31.8	102.6	7.51	145	0.53	4.4	62.5
S22	Keite River @ Makueni	4/11/2011	-1.7764	37.6167	1107	22.1	104.3	7.69	262	0.74	9.1	51.2
S23	Keite River (below Thwake River)	4/11/2011	-1.7756	37.7204	986	31.0	105.0	7.93	256	0.89	2.9	89.4
S24	Thwake River	5/11/2011	-1.6708	37.6615	1053	26.1	103.6	8.21	369	1.55	2.9	66.1
S26	Kikuw River	19/11/2011	-2.0852	37.7707	864	28.0	94.3	7.61	212	1.02	9.7	54.2

Supplementary Table 2 (cont.)

#	Site Name	Date	N <sub>2</sub> O (nmol L <sup>-1</sup> )	CH <sub>4</sub> (nmol L <sup>-1</sup> )	δ <sup>15</sup> N <sub>PN</sub> (‰)	δ <sup>18</sup> O <sub>H<sub>2</sub>O</sub> (‰)	Pelagic PP (μmol L <sup>-1</sup> h <sup>-1</sup> )	Community R (μmol L <sup>-1</sup> h <sup>-1</sup> )	TSM (mg L <sup>-1</sup> )	POC (mg L <sup>-1</sup> )	POC:PN (-)	%POC (-)
Main Channel												
S1	Athi River @ Fourteen Falls	1/11/2011	83.0	4502.4	6.9	-1.7	12.36 ± 1.16	3.96 ± 0.21	92.0	8.5	7.3	9.22
S2	Athi River @ Yatta	1/11/2011	84.4	323.8	11.4	-3.0	6.33 ± 0.49	3.41 ± 0.15	51.7	4.1	7.9	7.85
S3	Athi River @ Wamunyu	3/11/2011	12.7	242.7	8.1	-2.6	1.52 ± 0.21	1.75 ± 0.29	1953.0	36.8	8.0	1.88
S4	Athi River @ Kavumbu	5/11/2011	12.1	224.2	13.6	-2.9	9.88 ± 0.13	1.64 ± 0.33	116.5	5.9	8.6	5.03
S5	Athi River @ Nzeveni	20/11/2011	9.9	474.0	7.4	-3.0	<i>d.l.</i>	2.04 ± 0.37	4844.0	83.4	9.2	1.72
S6	Athi River @ Kiaoni	19/11/2011	8.2	224.4	8.6	-2.8	1.21 ± 0.21	0.76 ± 0.14	1025.9	25.2	9.5	2.46
S11	Athi River @ Tsavo Safari Camp	17/11/2011	8.5	86.8	5.3	-2.5	<i>d.l.</i>	1.80 ± 0.29	3512.0	87.3	8.5	2.48
S13	Athi River @ Pattersons Lodge	17/11/2011	8.6	240.1	7.0	-2.3	<i>d.l.</i>	1.25 ± 0.12	3040.0	63.3	8.9	2.08
S14	Galana River @ Luggard Falls	12/11/2011	8.5	27.5	7.6	-3.6	<i>d.l.</i>	1.65 ± 0.23	6604.3	97.5	9.1	1.48
S15	Galana River @ Hippo Point	12/11/2011	8.0	28.2	8.2	-3.2	<i>d.l.</i>	1.32 ± 0.46	8073.2	119.9	9.4	1.48
S16	Galana River @ Sala	13/11/2011	9.1	68.8	6.3	-2.9	<i>d.l.</i>	1.74 ± 0.50	8372.1	90.8	9.7	1.09
S17	Galana River @ Kiboko Lodge	11/11/2011	9.9	169.2	8.0	-1.3	<i>d.l.</i>	1.94 ± 0.43	6288.7	98.8	9.8	1.57
S18	Galana River @ Chakahola	10/11/2011	13.0	489.9	<i>n.m.</i>	-2.8	<i>d.l.</i>	2.87 ± 0.16	<i>n.m.</i>	76.3	8.8	<i>n.m.</i>
S19	Galana River @ Kakoneni	10/11/2011	12.3	616.5	8.7	-1.1	3.13 ± 0.23	1.57 ± 0.15	2826.9	78.3	11.5	2.77
S20	Sabaki River	9/11/2011	15.8	371.8	7.9	-1.3	7.18 ± 0.89	1.78 ± 0.31	1866.7	28.0	9.1	1.50
Tributaries												
S7	Mzima Spring	15/11/2011	8.2	5.4	-1.1	-3.2	0.03 ± 0.01	0.33 ± 0.15	0.4	0.1	20.2	19.26
S8	Mzima River	15/11/2011	7.5	304.4	4.3	-2.8	0.53 ± 0.03	0.56 ± 0.11	5.0	0.5	12.0	10.31
S9	Ziwani River	16/11/2011	11.1	46.3	8.3	-5.5	<i>d.l.</i>	3.18 ± 0.28	25890.0	282.1	11.6	1.09
S10	Tsavo River (Tsavo West)	16/11/2011	9.1	1357.1	6.6	-4.6	<i>d.l.</i>	2.36 ± 0.19	11275.0	219.6	12.3	1.95
S12	Tsavo River @ Mombassa Rd	14/11/2011	14.2	39.1	9.9	-2.1	<i>d.l.</i>	1.38 ± 0.35	428.7	7.4	12.1	1.73
S21	Katingani River	3/11/2011	6.6	9.0	5.0	-2.1	1.14 ± 1.63	1.78 ± 0.17	900.0	12.4	9.0	1.38
S22	Keite River @ Makueni	4/11/2011	7.8	15.4	6.0	-1.9	0.68 ± 0.04	1.15 ± 0.14	1453.8	25.5	10.9	1.75
S23	Keite River (below Thwake River)	4/11/2011	6.8	20.6	6.6	-1.2	<i>d.l.</i>	1.77 ± 0.39	3151.3	48.5	10.6	1.54
S24	Thwake River	5/11/2011	7.3	286.2	5.8	-1.6	1.33 ± 0.01	0.72 ± 0.27	330.7	9.7	15.3	2.92
S26	Kikuw River	19/11/2011	16.4	22.9	7.8	-5.4	<i>d.l.</i>	3.09 ± 0.29	28375.0	446.8	10.4	1.57

Supplementary Table 3: Overview of surface water temperature, dissolved O<sub>2</sub>, pH, conductivity, total alkalinity (TA), NH<sub>4</sub><sup>+</sup>, NO<sub>3</sub><sup>-</sup>, dissolved N<sub>2</sub>O, dissolved CH<sub>4</sub>, δ<sup>15</sup>N<sub>PN</sub>, δ<sup>18</sup>O<sub>H<sub>2</sub>O</sub>, pelagic PP, community R, TSM, POC, POC:PN and %POC:TSM for the different sampling sites during the long rain season (Mar.-May: MAM) sampling campaigns in the Athi-Galana-Sabaki catchment (note: *d.l.*= below detection limit; *n.m.*= not measured).

#	Site Name	Date	Latitude (decimal)	Longitude (decimal)	Altitude (m)	t° (°C)	O <sub>2</sub> (%)	pH (NBS)	Conductivity (μS cm <sup>-1</sup> )	TA (mmol kg <sup>-1</sup> )	NH <sub>4</sub> <sup>+</sup> (μmol L <sup>-1</sup> )	NO <sub>3</sub> <sup>-</sup> (μmol L <sup>-1</sup> )
Main Channel												
S1	Athi River @ Fourteen Falls	25/04/2012	-1.0776	37.2525	1410	19.8	66.8	7.35	219	1.13	123.0	98.9
S2	Athi River @ Yatta	25/04/2012	-1.2335	37.4660	1182	21.2	102.9	7.66	205	1.09	61.6	128.4
S3	Athi River @ Wamunyu	24/04/2012	-1.4156	37.6469	1069	21.4	98.1	7.72	178	0.99	36.5	85.4
S4	Athi River @ Kavumbu	27/04/2012	-1.6146	37.7853	941	23.2	104.6	7.27	226	1.09	26.4	156.8
S5	Athi River @ Nzeveni	26/04/2012	-1.9060	37.9067	823	23.2	108.0	6.94	190	0.95	12.9	95.8
S6	Athi River @ Kiaoni	21/04/2012	-2.2011	38.0573	710	27.0	97.3	7.35	443	1.67	11.1	398.8
S11	Athi River @ Tsavo Safari Camp	19/04/2012	-2.6697	38.3821	493	27.1	102.9	7.95	404	1.60	12.9	138.6
S13	Athi River @ Pattersons Lodge	19/04/2012	-2.9425	38.4890	447	27.1	98.9	7.15	278	1.26	9.9	126.5
S14	Galana River @ Luggard Falls	29/04/2012	-3.0403	38.6961	333	25.3	109.9	7.92	301	1.50	10.6	146.4
S15	Galana River @ Hippo Point	29/04/2012	-3.0464	38.9055	232	26.9	111.0	8.08	308	1.53	15.5	145.5
S16	Galana River @ Sala	30/04/2012	-3.0763	39.1699	171	26.4	105.3	7.43	305	1.39	22.1	213.0
S17	Galana River @ Kiboko Lodge	17/04/2012	-3.0689	39.2944	140	31.0	99.9	8.03	579	2.22	15.1	342.4
S18	Galana River @ Chakahola	30/04/2012	-3.1062	39.5539	76	27.0	102.3	7.67	324	1.50	17.0	202.6
S20	Sabaki River	1/05/2012	-3.1443	40.1084	0	28.9	73.1	6.60	564	2.25	<i>n.m.</i>	<i>n.m.</i>
Tributaries												
S7	Mzima Spring	18/04/2012	-2.9842	38.0231	693	24.5	95.3	7.50	551	4.84	8.4	41.6
S8	Mzima River	18/04/2012	-3.0155	38.0288	656	25.3	103.5	8.15	523	4.61	9.0	34.3
S9	Ziwani River	20/04/2012	-3.0256	38.0408	653	24.3	103.5	8.24	536	4.04	24.9	130.9
S10	Tsavo River (Tsavo West)	20/04/2012	-3.0463	38.1038	620	25.2	95.9	8.31	513	4.00	10.9	110.4
S12	Tsavo River @ Mombassa Rd	28/04/2012	-2.9946	38.4608	466	24.9	109.1	8.09	564	4.40	33.0	55.3
S21	Katingani River	24/04/2012	-1.5671	37.5488	1175	24.4	107.1	6.54	107	0.41	8.9	63.6
S22	Keite River @ Makueni	23/04/2012	-1.7764	37.6167	1107	20.9	106.3	6.49	104	0.52	39.2	31.0
S23	Keite River (below Thwake River)	22/04/2012	-1.7756	37.7204	986	28.2	106.2	7.24	321	1.14	11.9	39.0
S26	Kikuw River	21/04/2012	-2.0852	37.7707	864	36.0	105.8	7.77	448	1.19	11.2	24.0

Supplementary Table 3 (cont.)

#	Site Name	Date	N <sub>2</sub> O (nmol L <sup>-1</sup> )	CH <sub>4</sub> (nmol L <sup>-1</sup> )	δ <sup>15</sup> N <sub>PN</sub> (‰)	δ <sup>18</sup> O <sub>H<sub>2</sub>O</sub> (‰)	Pelagic PP (μmol L <sup>-1</sup> h <sup>-1</sup> )	Community R (μmol L <sup>-1</sup> h <sup>-1</sup> )	TSM (mg L <sup>-1</sup> )	POC (mg L <sup>-1</sup> )	POC:PN (-)	%POC (-)
Main Channel												
S1	Athi River @ Fourteen Falls	25/04/2012	32.6	6729	12.5	-7.9	<i>d.l.</i>	3.21 ± 0.27	4275.6	125.8	10.1	2.9
S2	Athi River @ Yatta	25/04/2012	19.7	1149	8.6	-8.1	<i>d.l.</i>	4.50 ± 0.33	5321.7	125.6	14.6	2.4
S3	Athi River @ Wamunyu	24/04/2012	10.8	392	9.8	-4.8	<i>d.l.</i>	2.76 ± 0.33	5127.3	101.2	10.4	2.0
S4	Athi River @ Kavumbu	27/04/2012	9.9	216	5.0	-5.6	33.37 ± 10.35	3.02 ± 0.22	2452.5	62.3	12.4	2.5
S5	Athi River @ Nzeveni	26/04/2012	11.0	134	5.3	<i>n.m.</i>	<i>d.l.</i>	3.57 ± 0.16	5490.2	66.2	12.4	1.2
S6	Athi River @ Kiaoni	21/04/2012	10.4	188	3.9	-2.7	135.27 ± 18.17	2.19 ± 0.20	5595.4	72.8	18.4	1.3
S11	Athi River @ Tsavo Safari Camp	19/04/2012	8.2	33	15.7	-4.6	<i>d.l.</i>	2.17 ± 0.43	7047.5	137.2	8.8	1.9
S13	Athi River @ Pattersons Lodge	19/04/2012	8.2	177	5.3	<i>n.m.</i>	39.04 ± 10.63	1.10 ± 0.26	3624.0	56.1	10.6	1.5
S14	Galana River @ Luggard Falls	29/04/2012	8.4	37	6.4	-7.5	<i>d.l.</i>	1.86 ± 0.29	3856.7	68.1	10.6	1.8
S15	Galana River @ Hippo Point	29/04/2012	7.9	18	7.7	-4.1	<i>d.l.</i>	1.35 ± 0.38	4860.0	81.8	10.6	1.7
S16	Galana River @ Sala	30/04/2012	8.0	91	6.4	-7.3	<i>d.l.</i>	1.07 ± 0.19	2914.3	27.7	10.8	2.4
S17	Galana River @ Kiboko Lodge	17/04/2012	8.9	59	15.5	-2.6	56.02 ± 13.39	3.81 ± 0.44	8136.4	81.5	11.2	2.2
S18	Galana River @ Chakahola	30/04/2012	8.8	226	6.3	-5.6	35.86 ± 7.83	1.39 ± 0.16	3750.6	36.7	13.7	2.3
S20	Sabaki River	1/05/2012	<i>n.m.</i>	<i>n.m.</i>	1.5	-1.1	<i>n.m.</i>	<i>n.m.</i>	880.0	15.1	10.2	1.7
Tributaries												
S7	Mzima Spring	18/04/2012	8.9	2	0.0	-3.4	0.48 ± 0.16	0.23 ± 0.18	0.4	0.1	16.8	21.0
S8	Mzima River	18/04/2012	7.8	483	0.1	-3.3	3.29 ± 2.10	0.28 ± 0.14	6.2	1.3	12.9	21.3
S9	Ziwani River	20/04/2012	7.8	15	19.1	<i>n.m.</i>	30.29 ± 4.24	2.79 ± 0.31	25060.0	264.4	13.8	1.1
S10	Tsavo River (Tsavo West)	20/04/2012	8.0	224	14.9	-6.9	<i>d.l.</i>	2.16 ± 0.17	17593.3	183.5	12.3	1.0
S12	Tsavo River @ Mombassa Rd	28/04/2012	9.4	42	4.3	<i>n.m.</i>	29.35 ± 4.02	1.03 ± 0.20	4789.7	59.8	14.1	1.2
S21	Katingani River	24/04/2012	7.2	45	1.7	<i>n.m.</i>	49.51 ± 10.55	0.49 ± 0.13	983.0	18.0	10.5	1.8
S22	Keite River @ Makueni	23/04/2012	8.6	38	19.8	-5.1	<i>d.l.</i>	2.56 ± 0.19	16502.6	214.3	10.8	1.3
S23	Keite River (below Thwake River)	22/04/2012	6.3	34	2.9	<i>n.m.</i>	106.27 ± 0.91	1.06 ± 0.14	1798.0	32.7	11.3	1.8
S26	Kikuw River	21/04/2012	6.0	377	2.6	-3.2	81.47 ± 13.00	0.54 ± 0.70	1085.9	19.5	7.6	1.8

Supplementary Table 4: Overview of  $\delta^{15}\text{N}_{\text{PN}}$  and  $\delta^{18}\text{O}_{\text{H}_2\text{O}}$  at the Sabaki bi-weekly monitoring site (S20) for a one year sampling period.

Date	Latitude (decimal)	Longitude (decimal)	Altitude (m)	$\delta^{15}\text{N}_{\text{PN}}$ (‰)	$\delta^{18}\text{O}_{\text{H}_2\text{O}}$ (‰)
24/09/2011	-3.1443	40.1084	0	14.0	3.0
8/10/2011	-3.1443	40.1084	0	14.3	0.7
22/10/2011	-3.1443	40.1084	0	14.7	0.3
4/11/2011	-3.1443	40.1084	0	11.0	-0.8
19/11/2011	-3.1443	40.1084	0	9.3	-1.2
3/12/2011	-3.1443	40.1084	0	8.3	-3.6
17/12/2011	-3.1443	40.1084	0	8.4	-2.2
29/12/2011	-3.1443	40.1084	0	8.6	-1.3
17/01/2012	-3.1443	40.1084	0	7.4	2.5
3/02/2012	-3.1443	40.1084	0	12.8	1.3
18/02/2012	-3.1443	40.1084	0	10.2	1.4
3/03/2012	-3.1443	40.1084	0	11.8	1.6
18/03/2012	-3.1443	40.1084	0	10.7	2.9
30/03/2012	-3.1443	40.1084	0	10.8	-0.3
14/04/2012	-3.1443	40.1084	0	9.6	-0.8
1/05/2012	-3.1443	40.1084	0	8.5	-1.1
15/05/2012	-3.1443	40.1084	0	4.6	2.3
30/05/2012	-3.1443	40.1084	0	6.0	-2.5
14/06/2012	-3.1443	40.1084	0	12.6	-2.7
26/06/2012	-3.1443	40.1084	0	2.2	-2.1
10/07/2012	-3.1443	40.1084	0	6.6	-1.7
24/07/2012	-3.1443	40.1084	0	4.3	-2.6
6/08/2012	-3.1443	40.1084	0	8.4	-2.4
20/08/2012	-3.1443	40.1084	0	-3.1	-2.6
2/09/2012	-3.1443	40.1084	0	11.6	1.7
16/09/2012	-3.1443	40.1084	0	3.6	-0.2