

Supplementary materials for Journal of Wildlife Diseases DOI: 10.7589/JWD-D-20-00009: Alexa R. Putillo, Mark Flint, Jeffrey A. Seminoff, Robert G. M. Spencer, and M. P. B. Fuentes Mariana. Plasma Biochemistry Profiles of Juvenile Green Turtles (*Chelonia Mydas*) From the Bahamas With Potential Influence of Diet.

Table S1: Values for environmental parameters (pH, DO), dissolved inorganic nutrients (NH₄, NO₃⁺NO₂), dissolved organic carbon (DOC) and fecal coliform from two foraging sites in Bimini, Bahamas.

Parameter	Bonefish Hole		South Flats		P-value; Statistical Test
	Mean ± SD	Range	Mean ± SD	Range	
pH*	7.93 ± 0.16	7.66–8.27	8.36 ± 0.08	8.09–8.43	2.39e ⁻⁰⁷ ; Welch's t-test
DO (mg L ⁻¹)*	5.21 ± 1.16	2.60–6.77	6.61 ± 0.90	5.80–9.33	0.00101; Welch's t-test
NH ₄ (ug N L ⁻¹)*	66.23 ± 23.32	26.46–127.67	106.56 ± 63.59	1.60–215.90	0.0334; Welch's t-test
NO ₃ +NO ₂ (mg N L ⁻¹)	0.011 ± 0.013	0.00011–0.045	0.008 ± 0.010	0.000028–0.032	2.58e ⁻⁰⁸ ; Mann-Whitney U test
DOC (mg L ⁻¹)*	3.25 ± 0.77	1.67–4.54	1.41 ± 0.15	1.20–1.78	0.281; Mann-Whitney U test
Fecal Coliform (cfu/100mL)	29.52 ± 23.75	<1–63	8.50 ± 8.70	<1–17	NA

* Indicates significant difference between the two sites

Table S2: Comparison between size (CCL, SCL, BW) and all 21 plasma biochemistry values of juvenile *Chelonia mydas* between two different foraging areas (Bonefish Hole and South Flats) in Bimini, Bahamas.

Parameter	Unit	Bonefish Hole			South Flats		
		Mean \pm SD	Median	Range	Mean \pm SD	Median	Range
CCL*	(cm)	40.1 \pm 5.5	41.2	25.0–46.8	45.4 \pm 5.3	48.0	34.2–52.5
SCL*	(cm)	37.6 \pm 5.4	38.6	22.2–44.1	43.1 \pm 5.1	44.8	32.2–49.8
BW*	(kg)	6.9 \pm 2.8	7.5	1.2–12.1	10.6 \pm 4.0	10.2	4.5–17.3
ALP ^a	(U/L)	30.3 \pm 17.9	25.0	10.0–80.0	44.9 \pm 20.1	48.0	10.0–84.0
Amylase	(U/L)	331.8 \pm 116.6	319.0	151.0–557.0	323.8 \pm 128.6	295.0	138.0–578.0
AST ^{b*}	(U/L)	133.2 \pm 21.3	145.0	90.0–158.0	173.9 \pm 50.4	176.0	87.0–275.0
CK ^c	(U/L)	842.8 \pm 519.9	819.0	242.0–1837.0	1943.6 \pm 2194.3	994.0	437.0–7856.0
Calcium	(mg/dL)	9.4 \pm 46.3	9.6	6.6–11.5	10.0 \pm 57.3	10.2	7.6–11.8
Cholesterol*	(mg/dL)	112.5 \pm 46.3	109.0	45.0–217.0	180.9 \pm 57.3	174.0	84.0–286.0
GGT ^d	(U/L)	7.8 \pm 6.0	5.0	5.0–25.0	5.3 \pm 0.8	5.0	5.0–8.0
Potassium	(mmol/L)	5.4 \pm 1.0	5.3	4.2–7.6	5.1 \pm 1.1	4.8	3.3–8.0
Lipase	(U/L)	24.9 \pm 13.5	22.0	2.0–47.0	47.1 \pm 34.8	30.0	4.0–126.0

Magnesium	(mg/dL)	10.7 ± 1.9	10.9	8.2–14.0	11.3 ± 2.1	11.3	8.3–14.7
Sodium	(mmol/L)	151.8 ± 8.7	152.0	134.0–165.0	156.3 ± 8.5	158.0	132.0–166.0
Chloride	(mmol/L)	118.6 ± 7.7	119.0	100.0–130.0	120.5 ± 7.8	122.0	100.0–132.0
CO ₂	(mmol/L)	14.2 ± 5.2	14.0	5.0–25.0	10.7 ± 3.7	10.0	5.0–17.0
Glucose	(mg/dL)	104.8 ± 13.5	104.0	85.0–123.0	111.7 ± 14.8	117.0	79.0–129.0
Urea	(mg/dL)	9.2 ± 5.6	9.0	2.0–19.0	5.7 ± 2.9	5.0	3.0–13.0
Anion Gap*	(mmol/L)	18.1 ± 6.1	18.5	5.0–26.0	24.9 ± 7.2	24.5	12.0–43.0
Osmolality	(mol/kg)	291.5 ± 16.4	292.0	257.0–317.0	298.9 ± 16.4	301.0	252.0–318.0
Phosphorus*	(mg/dL)	6.7 ± 1.5	6.6	3.7–10.2	7.8 ± 1.1	7.7	5.8–9.7
Uric Acid	(mg/dL)	2.7 ± 1.3	2.0	1.2–4.7	3.3 ± 1.6	2.7	1.1–6.4
Total Protein*	(g/dL)	3.1 ± 0.6	3.0	2.1–4.1	3.8 ± 0.46	3.9	2.6–4.5
Triglycerides*	(mg/dL)	132.3 ± 56.3	135.0	72.0–285.0	225.2 ± 105.6	235.0	61.0–377.0

^a ALP, alkaline phosphatase; ^b AST, aspartate transaminase; ^c CK, creatinine kinase; ^d GGT, gamma-glutamyl transferase; * indicates significant difference between the two sites.

Table S3: Summary of individual green turtle (*Chelonia mydas*) biochemical profiles from two foraging grounds (Bonefish Hole and South Flats) in Bimini, Bahamas showing plasma analytes that were elevated compared to published reference ranges of clinically stable green turtles in Australia (Flint et al. 2010). No individual appeared clinically sick, however 11/28 turtles (2/13 turtles from Bonefish Hole; 9/15 turtles from South Flats) were under excretory compromise due to elevated levels of ALP, CK, calcium, and uric acid.

Reference Range:		8.3–17.5 U/L	326.0–2728.5 U/L	0.8–8.8 mg/dL	0.37–2.2 mg/dL	
		Alkaline Phosphatase	Creatine Kinase	Calcium	Uric Acid	
Location	Turtle	(U/L)	(U/L)	(mg/dL)	(mg/dL)	Abnormality
Bonefish Hole	BH01	40.0	242.0	11.5	4.5	Excretory Compromise
Bonefish Hole	BH02	37.0	1123.0	9.6	3.5	
Bonefish Hole	BH03	10.0	1837.0	10.0	2.0	
Bonefish Hole	BH04	80.0	1213.0	10.0	4.4	Excretory Compromise
Bonefish Hole	BH05	19.0	397.0	6.6	1.7	
Bonefish Hole	BH06	10.0	819.0	8.9	1.8	
Bonefish Hole	BH07	34.0	481.0	9.5	3.2	
Bonefish Hole	BH08	24.0	413.0	9.6	2.0	

Bonefish Hole	BH09	21.0	1165.0	8.7	1.2	
Bonefish Hole	BH10	36.0	290.0	8.1	1.3	
Bonefish Hole	BH11	23.0	481.0	9.7	1.7	
Bonefish Hole	BH12	35.0	1632.0	11.0	4.7	
Bonefish Hole	BH13	25.0	864.0	9.3	2.8	
South Flats	SF01	47.0	461.0	10.7	4.3	Excretory Compromise
South Flats	SF02	35.0	800.0	9.7	4.0	
South Flats	SF03	51.0	855.0	11.8	2.3	Excretory Compromise
South Flats	SF04	58.0	847.0	10.2	2.7	Excretory Compromise
South Flats	SF05	75.0	994.0	10.2	2.3	Excretory Compromise
South Flats	SF06	37.0	437.0	11.1	4.0	
South Flats	SF07	10.0	547.0	10.6	4.3	
South Flats	SF08	27.0	679.0	10.9	1.5	
South Flats	SF09	48.0	1665.0	11.5	6.4	Excretory Compromise
South Flats	SF10	12.0	3944.0	7.8	1.7	
South Flats	SF11	54.0	1758.0	9.6	2.5	Excretory Compromise

South Flats	SF12	48.0	5783.0	8.9	1.1	Excretory Compromise
South Flats	SF13	36.0	1433.0	7.6	1.8	
South Flats	SF14	84.0	7856.0	10.4	5.1	Excretory Compromise
South Flats	SF15	51.0	1095.0	9.5	4.9	Excretory Compromise

Table S4: Individual turtle diet proportions as determined via stable isotope model summary statistics and accompanying stable carbon and nitrogen isotope values for Bonefish Hole and South Flats.

	Individual	Main Diet Characterization	% Seagrass	% Red Algae	% Green Algae	% SFF ^a	% Mangrove	$\delta^{13}\text{C}$	$\delta^{15}\text{N}$
Bonefish Hole	BH 01	Mixed	25	20	27	24	4	-11.987508	3.172943
	BH 02	Mixed	22	24	25	26	3	-13.114525	4.791556
	BH 03	Mixed	26	20	27	24	3	-11.742417	3.241756
	BH 04	Mixed	23	23	25	26	3	-11.833249	4.180317
	BH 05	Mixed	20	19	25	32	4	-15.175999	5.895249
	BH 06	Mixed	20	28	26	23	3	-13.440263	4.053396
	BH 07	Mixed	22	26	25	24	3	-13.030967	4.373197
	BH 08	Mixed	21	21	25	29	4	-14.061741	5.422845
	BH 09	Mixed	21	21	25	29	4	-14.322904	5.520581
	BH 10	Algae and SFF	17	29	25	24	5	-15.519928	4.752961
	BH 11	Algae and SFF	17	30	25	23	5	-15.064373	4.506114
	BH 12	Seagrass and SFF	34	8	16	40	2	-5.705545	1.494491

South Flats	BH 13	Seagrass and SFF	35	8	17	38	2	-6.029989	1.640096
	SF01	Seagrass	43	12	29	16	NA	-6.499077	0.789401
	SF02	Seagrass	44	11	29	16	NA	-5.792934	1.135464
	SF03	Seagrass	44	11	29	16	NA	-6.113163	0.898362
	SF04	Seagrass	46	10	29	14	NA	-6.575758	-0.443802
	SF05	Seagrass	41	13	29	17	NA	-6.327365	1.805797
	SF06	Seagrass	43	12	28	17	NA	-6.419884	0.830404
	SF07	Mixed	23	27	24	26	NA	-9.282467	4.596086
	SF08	Mixed	26	25	25	24	NA	-9.046417	3.035315
	SF09	Mixed	30	20	26	24	NA	-7.835024	4.038597
	SF10	Mixed	27	25	25	23	NA	-9.088855	2.951083
	SF11	Mixed	30	21	26	23	NA	-8.075169	3.440778
	SF12	Mixed	29	19	27	25	NA	-7.631681	5.122730
	SF13	Mixed	37	15	28	20	NA	-7.171069	2.036023
	SF14	Red Algae	16	40	20	24	NA	-11.689180	3.207848
SF15	Red Algae	11	52	15	22	NA	-13.987411	3.921913	

^a SFF, sessile filter feeders