

Table S1. Monthly variation in three metrics of thermal quality of two different types of thermal refuges (natural springs, passive thermal basins [PTB]) for Florida manatees (*Trichechus manatus latirostris*): monthly mean deviation between refuge temperature and the ambient environment (d_e), monthly mean deviation between refuge temperature and the lower critical threshold of manatees (20 °C; d_{lct}), and the percent time refuge > 20 °C each month during cold ambient temperatures (< 20 °C).

Refuge	Type	Winter Season	Month	d_e	d_{lct}	% > 20 C
Homosassa Springs	Spring	2007-08	12	5.43	3.17	100.00
Homosassa Springs	Spring	2007-08	1	7.02	3.20	100.00
Homosassa Springs	Spring	2007-08	2	6.14	3.18	100.00
Homosassa Springs	Spring	2007-08	3	5.09	3.17	100.00
Homosassa Springs	Spring	2008-09	11	4.99	3.22	100.00
Homosassa Springs	Spring	2008-09	12	5.51	3.10	100.00
Homosassa Springs	Spring	2008-09	1	3.62	2.73	100.00
Lostman River	PTB	2014-15	11	0.04	-1.30	8.94
Lostman River	PTB	2014-15	12	1.22	0.12	54.52
Lostman River	PTB	2014-15	1	1.42	0.46	89.16
Lostman River	PTB	2014-15	2	1.67	0.19	50.40
Magnolia Springs	Spring	2014-15	11	6.21	2.87	98.23
Magnolia Springs	Spring	2014-15	12	5.51	2.33	100.00
Magnolia Springs	Spring	2014-15	1	4.76	2.30	100.00
Magnolia Springs	Spring	2014-15	2	4.53	2.31	100.00
Magnolia Springs	Spring	2014-15	3	5.38	2.51	91.13
Manatee Springs	Spring	2014-15	11	5.51	2.31	100.00
Manatee Springs	Spring	2014-15	12	5.93	2.90	100.00
Manatee Springs	Spring	2014-15	1	7.48	2.84	100.00
Manatee Springs	Spring	2014-15	2	7.99	2.74	100.00
Manatee Springs	Spring	2014-15	3	3.79	2.34	100.00
Mud Bay	PTB	2009-10	1	8.59	3.79	100.00
Mud Bay	PTB	2009-10	2	5.89	3.65	100.00
Mud Bay	PTB	2009-10	3	5.88	3.74	100.00
Mud Bay	PTB	2013-14	12	1.29	-7.98	19.64
Mud Bay	PTB	2013-14	1	3.37	1.60	94.44
Mud Bay	PTB	2014-15	11	3.19	1.47	78.40
Mud Bay	PTB	2014-15	12	2.49	0.41	54.77
Mud Bay	PTB	2014-15	1	2.41	-0.30	40.40
Mud Bay	PTB	2014-15	2	2.73	-0.39	42.93
Mud Bay	PTB	2014-15	3	8.00	4.94	100.00
North River	PTB	2008-09	12	2.16	-1.26	37.50
North River	PTB	2008-09	1	3.05	0.76	56.66
North River	PTB	2008-09	2	1.85	-0.84	27.86
North River	PTB	2008-09	3	3.42	2.27	89.26

Refuge	Type	Winter Season	Month	d_e	d_{ict}	% > 20 C
North River	PTB	2009-10	1	6.83	2.36	71.45
North River	PTB	2009-10	2	6.61	2.71	87.92
North River	PTB	2009-10	3	5.10	1.91	87.96
North River	PTB	2013-14	12	1.38	-8.10	3.57
North River	PTB	2013-14	1	2.54	0.46	34.47
North River	PTB	2013-14	2	2.93	2.26	100.00
Port of the Islands	PTB	2007-08	11	6.55	4.27	100.00
Port of the Islands	PTB	2007-08	12	7.81	3.92	100.00
Port of the Islands	PTB	2007-08	1	5.77	0.86	77.06
Port of the Islands	PTB	2007-08	2	7.24	3.71	100.00
Port of the Islands	PTB	2007-08	3	6.14	4.73	100.00
Port of the Islands	PTB	2008-09	11	6.69	3.59	100.00
Port of the Islands	PTB	2008-09	12	4.63	2.35	100.00
Port of the Islands	PTB	2008-09	1	1.98	-0.22	38.07
Port of the Islands	PTB	2008-09	2	1.47	-1.16	20.07
Port of the Islands	PTB	2008-09	3	0.63	-0.42	17.24
Port of the Islands	PTB	2009-10	11	7.60	5.25	100.00
Port of the Islands	PTB	2009-10	12	7.83	4.44	99.96
Port of the Islands	PTB	2009-10	1	7.82	3.32	97.82
Port of the Islands	PTB	2009-10	2	7.01	3.12	96.27
Port of the Islands	PTB	2009-10	3	4.34	1.79	86.45
Port of the Islands	PTB	2010-11	11	11.82	6.06	100.00
Port of the Islands	PTB	2010-11	12	4.09	0.63	54.09
Port of the Islands	PTB	2013-14	11	9.08	5.34	100.00
Port of the Islands	PTB	2013-14	12	7.29	4.10	100.00
Port of the Islands	PTB	2013-14	1	2.77	1.25	82.25
Port of the Islands	PTB	2013-14	2	4.80	3.50	100.00
Port of the Islands	PTB	2013-14	3	6.84	4.96	100.00
Port of the Islands	PTB	2014-15	11	6.87	3.65	100.00
Port of the Islands	PTB	2014-15	12	5.20	2.02	100.00
Port of the Islands	PTB	2014-15	1	4.23	1.89	94.27
Port of the Islands	PTB	2014-15	2	2.62	0.86	73.17
Port of the Islands	PTB	2014-15	3	7.23	5.75	100.00
Rodgers River	PTB	2008-09	12	2.60	-1.11	44.12
Rodgers River	PTB	2008-09	1	0.41	-2.08	4.23
Rodgers River	PTB	2008-09	2	0.48	-2.40	12.55
Rodgers River	PTB	2008-09	3	0.27	-0.94	17.86
Rodgers River	PTB	2014-15	11	0.16	-1.18	18.90
Rodgers River	PTB	2014-15	12	0.38	-0.81	16.07
Rodgers River	PTB	2014-15	1	0.53	-0.53	30.73

Refuge	Type	Winter Season	Month	d_e	d_{ict}	% > 20 C
Rodgers River	PTB	2014-15	2	0.83	-0.72	32.82
Rodgers River	PTB	2014-15	3	16.95	2.75	100.00
Shark River	PTB	2007-08	1	0.38	-1.77	13.64
Shark River	PTB	2007-08	2	1.43	1.24	100.00
Sulphur Springs	Spring	2007-08	11	7.43	5.13	100.00
Sulphur Springs	Spring	2007-08	12	8.89	4.96	100.00
Sulphur Springs	Spring	2007-08	1	9.84	4.69	100.00
Sulphur Springs	Spring	2007-08	2	8.08	4.50	100.00
Sulphur Springs	Spring	2007-08	3	5.96	4.53	100.00
Sulphur Springs	Spring	2008-09	11	8.02	5.07	100.00
Sulphur Springs	Spring	2008-09	12	8.86	4.77	100.00
Sulphur Springs	Spring	2008-09	1	6.99	4.59	100.00
Sulphur Springs	Spring	2008-09	2	6.84	4.27	100.00
Sulphur Springs	Spring	2008-09	3	6.47	4.31	100.00
Sulphur Springs	Spring	2009-10	11	7.45	5.08	100.00
Sulphur Springs	Spring	2009-10	12	8.25	4.89	100.00
Sulphur Springs	Spring	2009-10	1	8.97	4.50	100.00
Sulphur Springs	Spring	2009-10	2	8.26	4.49	100.00
Tarpon Bay	PTB	2008-09	12	2.40	-1.40	34.85
Tarpon Bay	PTB	2008-09	1	2.38	0.14	42.67
Tarpon Bay	PTB	2008-09	2	2.32	-0.46	45.16
Tarpon Bay	PTB	2008-09	3	2.21	1.04	91.67
Three Sisters Springs	Spring	2014-15	11	5.75	2.39	90.81
Three Sisters Springs	Spring	2014-15	12	6.11	3.15	99.76
Three Sisters Springs	Spring	2014-15	1	6.83	2.25	90.80
Three Sisters Springs	Spring	2014-15	2	7.68	2.47	92.52
Three Sisters Springs	Spring	2014-15	3	4.29	1.33	77.45
Wakulla Springs	Spring	2008-09	11	4.37	0.06	65.67
Wakulla Springs	Spring	2008-09	12	2.95	0.07	50.46
Wakulla Springs	Spring	2008-09	1	1.20	0.08	52.01
Wakulla Springs	Spring	2008-09	2	2.12	0.18	55.64
Wakulla Springs	Spring	2008-09	3	1.73	0.55	80.74
Wakulla Springs	Spring	2009-10	11	6.80	5.99	100.00
West Lostman River	PTB	2008-09	12	2.60	-1.11	44.12
West Lostman River	PTB	2008-09	1	0.41	-2.08	4.23
West Lostman River	PTB	2008-09	2	0.48	-2.40	12.55
West Lostman River	PTB	2008-09	3	0.27	-0.94	17.86