Supplementary material

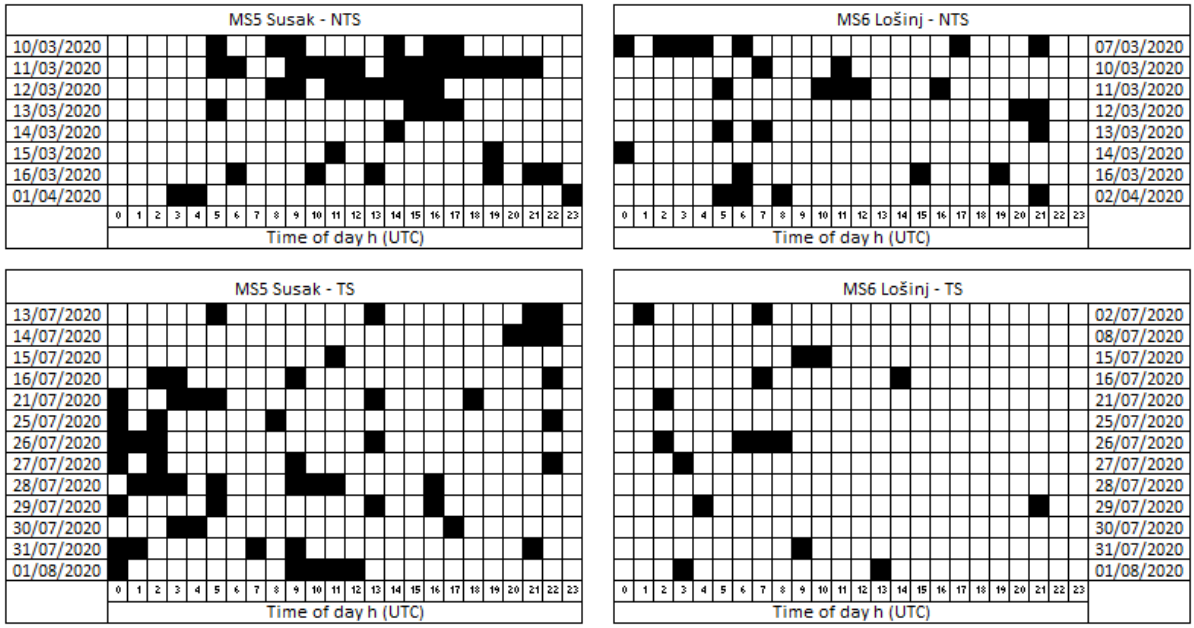

Figure S1. Presence (black) and absence (white) of bottlenose dolphin vocalizations at the MS5 Susak and MS6 Lošinj for all 42 24-hour days during the NTS and TS.

Table S1. Descriptive statistics of whistle parameters at the MS5 Susak and MS6 Lošinj during the day and night in the NTS and TS.

Statistics	Start freq (kHz)	End freq (kHz)	Min freq (kHz)	Max freq (kHz)	Peak freq (kHz)	Freq range (kHz)	Duration (s)	IP (*n*)
MS5 NTS-Day								
n	237	237	237	237	237	237	237	237
Mean (±SD)	7.21 (2.15)	11.17 (3.40)	6.49 (1.67)	12.48 (2.64)	8.64 (2.24)	5.99 (2.56)	0.81 (0.53)	1.07 (1.48)
Range	3.54 - 15.35	4.41 - 22.46	1.66 - 11.80	4.81 - 22.46	2.81 - 17.34	0.45 - 14.67	0.14 - 6.10	0.00 - 8.00
CV	29.82	30.48	25.69	21.19	25.88	42.76	65.25	138.64
MS5 NTS-Night								
n	13	13	13	13	13	13	13	13
Mean (±SD)	7.95 (1.62)	10.37 (4.28)	6.84 (1.57)	11.72 (3.04)	8.49 (2.32)	4.88 (2.70)	0.75 (0.25)	1.69 (2.14)
Range	5.42 - 10.03	4.44 - 15.80	4.44 – 9.86	5.42 - 15.80	4.69 - 12.75	0.98 - 9.93	0.43 - 1.32	0.00 - 5.00
CV	20.40	41.28	22.95	25.96	27.32	55.36	33.49	126.24
MS5 TS-Day								
n	27	27	27	27	27	27	27	27
Mean (±SD)	8.62 (1.82)	8.50 (2.35)	6.11 (1.93)	10.99 (2.13)	7.61 (2.15)	4.87 (2.48)	0.69 (0.42)	1.74 (1.16)
Range	5.72 - 12.19	4.51 - 12.94	4.06 - 9.31	7.52 - 16.04	4.41 - 10.69	1.06 - 9.03	0.20 - 1.62	0.00 - 4.00
CV	21.14	27.64	31.58	19.42	28.26	50.98	61.39	66.83
MS5 TS-Night								
n	8	8	8	8	8	8	8	8
Mean (±SD)	9.02 (3.71)	6.24 (2.71)	5.40 (1.47)	10.58 (3.62)	6.73 (2.21)	5.18 (2.78)	0.92 (0.31)	1.50 (1.20)
Range	4.98 - 12.79	3.84 - 11.97	3.84 - 7.28	5.04 - 14.09	4.03 – 10.41	1.13 - 8.43	0.53 - 1.44	0.00 - 3.00
CV	41.13	43.47	27.28	34.17	32.93	53.56	33.60	79.68
MS6 NTS-Day								
n	55	55	55	55	55	55	55	55

Mean (±SD)	7.56 (2.90)	8.59 (4.58)	5.99 (1.99)	10.76 (4.50)	8.26 (3.46)	4.77 (3.56)	0.89 (0.55)	1.47 (2.09)
Range	4.51 - 15.37	3.65 - 16.87	3.65 - 11.54	4.59 - 17.62	4.22 - 15.19	0.64 - 11.42	0.16 - 3.15	0.00 - 10.00
CV	38.39	53.33	33.22	41.77	41.83	74.64	62.41	141.86
MS6 NTS-Night								
n	207	207	207	207	207	207	207	207
Mean (±SD)	6.51 (2.52)	7.67 (4.06)	5.62 (2.16)	9.29 (4.38)	6.67 (2.85)	3.68 (2.93)	0.71 (0.30)	0.63 (0.87)
Range	3.61 - 15.21	3.79 - 17.44	3.36 - 14.84	4.62 - 17.44	2.86 - 17.06	0.42 - 10.74	0.18 - 2.16	0.00 - 5.00
CV	38.79	52.93	38.38	47.16	42.75	79.56	42.66	137.83
MS6 TS-Day								
n	72	72	72	72	72	72	72	72
Mean (±SD)	7.85 (3.54)	8.68 (3.16)	6.47 (1.96)	12.95 (3.93)	9.18 (3.25)	6.48 (3.06)	0.88 (0.41)	1.29 (1.26)
Range	0.87 - 18.17	3.66 - 17.49	0.87 -11.32	4.76 - 18.88	1.13 - 17.01	0.29 - 13.22	0.23 - 2.01	0.00 - 7.00
CV	45.07	36.41	30.29	30.37	35.36	47.28	46.88	97.62
MS6 TS-Night								
n	46	46	46	46	46	46	46	46
Mean (±SD)	5.26 (0.23)	6.58 (2.65)	4.66 (0.28)	8.04 (4.51)	5.01 (0.23)	3.38 (4.41)	0.83 (0.22)	0.72 (0.68)
Range	4.83 - 6.23	4.06 - 16.41	4.06 – 4.97	4.97 - 20.06	4.50 – 5.72	0.47 - 15.09	0.45 - 1.40	0.00 - 2.00
CV	4.32	40.35	6.02	56.18	4.62	130.53	26.69	95.96

Table S2. Descriptive statistics of chirp parameters at the MS5 Susak and MS6 Lošinj during the day and night in the NTS and TS.

Statistics	Start freq (kHz)	End freq (kHz)	Min freq (kHz)	Max freq (kHz)	Peak freq (kHz)	Freq range (kHz)	Duration (s)
MS5 NTS-Day							
n	91	91	91	91	91	91	91
Mean (±SD)	1.93 (0.63)	2.40 (0.46)	1.77 (0.51)	2.53 (0.46)	2.09 (0.44)	0.76 (0.37)	0.07 (0.02)
Range	0.26 – 5.02	1.56 – 4.41	0.83 – 4.41	1.56 – 5.02	1.13 – 4.59	0.26 – 1.91	0.02 - 0.10
CV	32.69	19.07	28.73	18.02	21.28	48.93	30.56
MS5 NTS-Night							
n	13	13	13	13	13	13	13
Mean (±SD)	2.63 (1.07)	2.97 (0.81)	2.40 (0.91)	3.03 (0.82)	2.65 (0.94)	0.62 (0.23)	0.06 (0.02)
Range	1.43 – 5.50	2.30 – 5.50	1.43 – 4.87	2.30 – 5.50	1.69 – 5.25	0.25 – 1.14	0.04 – 0.08
CV	40.72	27.43	37.72	26.91	35.31	37.35	25.90
MS5 TS-Day							
n	20	20	20	20	20	20	20
Mean (±SD)	1.70 (0.70)	2.29 (0.62)	1.55 (0.55)	2.36 (0.58)	2.00 (0.58)	0.81 (0.30)	0.07 (0.02)
Range	1.01 – 4.26	1.52 – 4.34	0.92 – 3.46	1.64 – 4.34	1.41 – 4.13	0.31 – 1.41	0.03 – 0.10
CV	41.08	26.89	35.12	24.43	29.20	36.78	29.68
MS5 TS-Night							
n	16	16	16	16	16	16	16
Mean (±SD)	1.66 (1.07)	2.08 (1.00)	1.57 (1.05)	2.19 (1.01)	1.89 (1.00)	0.63 (0.44)	0.08 (0.01)
Range	0.82 – 5.48	0.96 – 5.32	0.82 – 5.32	1.35 – 5.64	1.13 – 5.44	0.26 – 1.80	0.05 – 0.10
CV	64.60	48.17	66.77	45.91	52.77	69.94	19.50
MS6 NTS-Day							
n	9	9	9	9	9	9	9
Mean (±SD)	1.66 (0.25)	2.17 (0.69)	1.46 (0.46)	2.33 (0.39)	1.91 (0.27)	0.88 (0.34)	0.08 (0.02)

Range	1.16 – 2.01	0.51 – 2.73	0.51 – 2.01	1.70 – 2.73	1.31 – 2.16	0.44 – 1.35	0.05 – 0.10
CV	14.88	31.68	31.01	16.70	13.91	38.89	22.16
MS6 NTS-Night							
n	12	12	12	12	12	12	12
Mean (±SD)	1.70 (0.18)	2.10 (0.25)	1.63 (0.20)	2.13 (0.18)	1.92 (0.18)	0.50 (0.21)	0.08 (0.02)
Range	1.27 – 2.01	1.37 – 2.33	1.27 – 1.84	1.66 – 2.33	1.50 – 2.16	0.29 – 1.06	0.05 – 0.10
CV	10.69	12.02	12.44	8.42	9.19	42.56	21.05
MS6 TS-Day							
n	18	18	18	18	18	18	18
Mean (±SD)	2.25 (1.81)	2.74 (1.52)	2.11 (1.69)	2.82 (1.70)	2.40 (1.75)	0.72 (0.29)	0.06 (0.02)
Range	1.04 – 8.75	1.74 – 8.14	1.04 -8.14	1.74 – 9.02	1.31 – 8.72	0.38 – 1.38	0.03 – 0.10
CV	80.65	55.53	80.51	60.17	73.14	39.91	34.80
MS6 TS-Night							
n	1	1	1	1	1	1	1
Mean (±SD)	1.63	0.94	0.94	1.63	1.41	0.69	0.03
Range	-	-	-	-	-	-	-
CV	-	-	-	-	-	-	-

Table S3. Descriptive statistics of LFN sound parameters at the MS5 Susak and MS6 Lošinj during the day and night in the NTS and TS.

Statistics	Min freq (kHz)	Max freq (kHz)	Peak freq (kHz)	Freq range (kHz)	Duration (s)	Harmonics (*n*)
MS5 NTS-Day						
n	45	45	45	45	45	45
Mean (±SD)	0.38 (0.09)	0.75 (0.12)	0.56 (0.10)	0.36 (0.10)	0.04 (0.02)	0.13 (0.34)
Range	0.18 – 0.59	0.52 – 1.04	0.28 – 0.75	0.21 – 0.66	0.02 - 0.08	0.00 – 1.00
CV	23.11	16.54	18.46	26.60	38.49	257.83
MS5 NTS-Night						
n	12	12	12	12	12	12
Mean (±SD)	0.47 (0.06)	0.97 (0.11)	0.64 (0.10)	0.49 (0.09)	0.06 (0.01)	0.00 (0.00)
Range	0.37 – 0.56	0.73 – 1.16	0.47 – 0.75	0.35 – 0.66	0.04 – 0.07	0.00 – 0.00
CV	13.22	11.79	16.31	17.97	14.85	-
MS5 TS-Day						
n	173	173	173	173	173	173
Mean (±SD)	0.35 (0.09)	0.66 (0.11)	0.50 (0.09)	0.32 (0.08)	0.03 (0.01)	0.02 (0.15)
Range	0.21 – 0.62	0.50 – 1.20	0.38 – 0.84	0.19 – 0.89	0.01 – 0.13	0.00 – 1.00
CV	26.55	15.89	18.09	23.87	51.36	651.89
MS5TS-Night						
n	233	233	233	233	233	233
Mean (±SD)	0.36 (0.09)	0.71 (0.11)	0.53 (0.09)	0.34 (0.10)	0.03 (0.01)	0.06 (0.25)
Range	0.17 – 0.62	0.44 – 0.99	0.28 – 0.75	0.18 – 0.81	0.01 – 0.10	0.00 – 1.00
CV	23.43	14.89	16.84	28.05	44.73	382.05
MS6 NTS-Day						
n	64	64	64	64	64	64
Mean (±SD)	0.25 (0.06)	0.68 (0.07)	0.42 (0.06)	0.43 (0.07)	0.06 (0.02)	0.16 (0.57)
Range	0.11 – 0.41	0.41 – 0.85	0.28 – 0.56	0.25 – 0.62	0.02 – 0.12	0.00 – 4.00

CV	23.43	10.99	14.28	17.24	38.42	364.52
MS6 NTS-Night						
n	83	83	83	83	83	83
Mean (±SD)	0.27 (0.06)	0.63 (0.09)	0.45 (0.07)	0.36 (0.09)	0.05 (0.02)	0.11 (0.31)
Range	0.17 – 0.57	0.50 – 0.91	0.28 – 0.75	0.22 – 0.70	0.02 – 0.12	0.00 – 1.00
CV	20.46	13.65	14.69	25.52	50.31	288.49
MS6 TS-Day						
n	200	200	200	200	200	200
Mean (±SD)	0.32 (0.11)	0.74 (0.20)	0.50 (0.13)	0.42 (0.18)	0.05 (0.03)	0.08 (0.28)
Range	0.15 – 0.72	0.48 – 1.58	0.28 – 1.03	0.18 – 1.22	0.01 – 0.19	0.00 – 2.00
CV	35.25	26.48	25.90	42.03	64.85	376.59
MS6 TS-Night						
n	10	10	10	10	10	10
Mean (±SD)	0.26 (0.04)	0.59 (0.04)	0.41 (0.05)	0.33 (0.03)	0.05 (0.01)	0.00 (0.00)
Range	0.23 – 0.32	0.52 – 0.66	0.38 – 0.47	0.28 – 0.38	0.03 – 0.07	0.00 – 0.00
CV	13.73	7.33	11.74	9.84	20.87	-

Table S4. Statistical tests for differences in whistle parameters between diel (day vs night) and seasonal (NTS vs TS) periods at the MS5 Susak (Statistically significant results are highlighted in bold).

Start freq (kHz)	End freq (kHz)	Min freq (kHz)	Max freq (kHz)	Peak freq (kHz)	Freq range (kHz)	Duration (s)	IP (*n*)
Day vs Night NTS							
one-way ANOVA F (1,248) = 1.51	Kruskal Wallis H (1) = 0.09	one-way ANOVA F (1,248) = 0.54	one-way ANOVA F (1,248) = 1.00	one-way ANOVA F (1,248) = 0.06	one-way ANOVA F (1,248) = 2.32	one-way ANOVA F (1,248) = 0.20	Kruskal Wallis H (1) = 0.14
p = 0.221	p = 0.766	p = 0.462	p = 0.317	p = 0.811	p = 0.129	p = 0.653	p = 0.709
Day vs Night TS							
Kruskal Wallis H (1) = 0.56	one-way ANOVA F (1,33) = 5.32	one-way ANOVA F (1,33) = 0.92	Kruskal Wallis H (1) = 0.19	one-way ANOVA F (1,33) = 1.03	one-way ANOVA F (1,33) = 0.09	one-way ANOVA F (1,33) = 2.04	one-way ANOVA F (1,33) = 0.26
p = 0.814	**p = 0.027**	p = 0.344	p = 0.666	p = 0.317	p = 0.765	p = 0.162	p = 0.613
NTS vs TS							
one-way ANOVA F (1,283) = 14.21	one-way ANOVA F (1,283) = 26.91	one-way ANOVA F (1,283) = 3.36	one-way ANOVA F (1,283) = 10.46	one-way ANOVA F (1,283) = 9.27	one-way ANOVA F (1,283) = 4.58	one-way ANOVA F (1,283) = 0.52	one-way ANOVA F (1,283) = 4.79
p = 0.000	**p = 0.000**	p = 0.068	**p = 0.001**	**p = 0.003**	**p = 0.033**	p = 0.469	**p = 0.029**

Table S5. Statistical tests for differences in chirp parameters between diel (day vs night) and seasonal (NTS vs TS) periods at the MS5 Susak (Statistically significant results are highlighted in bold).

Start freq (kHz)	End freq (kHz)	Min freq (kHz)	Max freq (kHz)	Peak freq (kHz)	Freq range (kHz)	Duration (s)
Day vs Night NTS						
Kruskal Wallis H (1) = 7.46	one-way ANOVA F (1,102) = 13.86	Kruskal Wallis H (1) = 8.84	one-way ANOVA F (1,102) = 10.58	Kruskal Wallis H (1) = 6.15	Kruskal Wallis H (1) = 1.06	one-way ANOVA F (1,102) = 0.64
p = 0.006	**p = 0.000**	**p = 0.003**	**p = 0.002**	**p = 0.013**	p = 0.302	p = 0.425

Day vs Night TS						
one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA
F (1,34) = 0.02	F (1,34) = 0.59	F (1,34) = 0.00	F (1,34) = 0.40	F (1,34) = 0.16	F (1,34) = 2.19	F (1,34) = 2.31
p = 0.889	p = 0.446	p = 0.964	p = 0.528	p = 0.685	p = 0.147	p = 0.138
NTS vs TS						
one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA
F (1,138) = 5.05	F (1,138) = 5.41	F (1,138) = 5.30	F (1,138) = 6.87	F (1,138) = 2.99	F (1,138) = 0.05	F (1,138) = 0.70
p = 0.026	**p = 0.021**	**p = 0.023**	**p = 0.010**	p = 0.086	p = 0.809	p = 0.401

Table S6. Statistical tests for differences in LFN sound parameters between diel (day vs night) and seasonal (NTS vs TS) periods at the MS5 Susak (Statistically significant results are highlighted in bold).

Min freq (kHz)	Max freq (kHz)	Peak freq (kHz)	Freq range (kHz)	Duration (s)	Harmonics (*n*)
Day vs Night NTS					
one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA	Kruskal Wallis	Kruskal Wallis
F (1,55) = 10.84	F (1,55) = 31.47	F (1,55) = 6.35	F (1,55) = 18.23	H (1) = 12.91	H (1) = 1.75
p = 0.002	**p = 0.000**	**p = 0.015**	**p = 0.000**	**p = 0.000**	p = 0.185
Day vs Night TS					
one-way ANOVA	one-way ANOVA	one-way ANOVA	Kruskal Wallis	one-way ANOVA	Kruskal Wallis
F (1,404) = 3.37	F (1,404) = 15.80	F (1,404) = 6.14	H (1) = 5.92	F (1,404) = 1.44	H (1) = 3.77
p = 0.067	**p = 0.000**	**p = 0.014**	**p = 0.015**	p = 0.230	p = 0.052
NTS vs TS					
one-way ANOVA	Kruskal Wallis	one-way ANOVA	Kruskal Wallis	Kruskal Wallis	Kruskal Wallis
F (1,461) = 13.77	H (1) = 28.26	F (1,461) = 19.10	H (1) = 18.34	H (1) = 56.52	H (1) = 3.33
p = 0.000	**p = 0.000**	**p = 0.000**	**p = 0.000**	**p = 0.000**	p = 0.068

Table S7. Statistical tests for differences in whistle parameters between diel (day vs night) and seasonal (NTS vs TS) periods at the MS6 Lošinj (Statistically significant results are highlighted in bold).

Start freq (kHz)	End freq (kHz)	Min freq (kHz)	Max freq (kHz)	Peak freq(kHz)	Freq range (kHz)	Duration (s)	IP (*n*)
Day vs Night NTS							
one-way ANOVA	Kruskal Wallis	one-way ANOVA	one-way ANOVA	Kruskal Wallis	Kruskal Wallis	Kruskal Wallis	Kruskal Wallis
F (1,260) = 7.13	H (1) = 0.65	F (1,260) = 1.36	F (1,260) = 4.86	H (1) = 3.92	H (1) = 6.65	H (1) = 3.00	H (1) = 5.43
p = 0.008	p = 0.419	p = 0.245	**p = 0.028**	**p = 0.048**	**p = 0.010**	p = 0.083	**p = 0.020**
Day vs Night TS							
Kruskal Wallis	one-way ANOVA	Kruskal Wallis	one-way ANOVA	Kruskal Wallis	one-way ANOVA	Kruskal Wallis	one-way ANOVA
H (1) = 48.68	F (1,116) = 13.96	H (1) = 42.39	F (1,116) = 39.96	H (1) = 49.40	F (1,116) = 20.30	H (1) = 0.78	F (1,116) = 8.00
p = 0.000	**p = 0.000**	**p = 0.000**	**p = 0.000**	**p = 0.000**	**p = 0.000**	p = 0.377	**p = 0.006**
NTS vs TS							
one-way ANOVA	Kruskal Wallis	Kruskal Wallis	Kruskal Wallis	one-way ANOVA	Kruskal Wallis	one-way ANOVA	one-way ANOVA
F (1,378) = 0.13	H (1) = 3.63	H (1) = 9.13	H (1) = 13.17	F (1,378) = 2.56	H (1) = 9.21	F (1,378) = 7.67	F (1,378) = 3.75
p = 0.723	p = 0.057	**p = 0.003**	**p = 0.000**	p = 0.111	**p = 0.002**	**p = 0.006**	p = 0.053

Table S8. Statistical tests for differences in chirp parameters between diel (day vs night) and seasonal (NTS vs TS) periods at the MS6 Lošinj (Statistically significant results are highlighted in bold).

Start freq (kHz)	End freq (kHz)	Min freq (kHz)	Max freq (kHz)	Peak freq (kHz)	Freq range (kHz)	Duration (s)
Day vs Night NTS						
one-way ANOVA	one-way ANOVA	one-way ANOVA	Kruskal Wallis	one-way ANOVA	one-way ANOVA	one-way ANOVA
F (1,19) = 0.159	F (1,19) = 0.11	F (1,19) = 1.32	H (1) = 1.82	F (1,19) = 0,02	F (1,19) = 9.71	F (1,19) = 0.00
p = 0.695	p = 0.743	p = 0.264	p = 0.177	p = 0.873	**p = 0.006**	p = 0.951
Day vs Night TS						
	-	-	-	-	-	-
NTS vs TS						
Kruskal Wallis	Kruskal Wallis	Kruskal Wallis	Kruskal Wallis	Kruskal Wallis	one-way ANOVA	one-way ANOVA
H (1) = 0.026	H (1) = 0.16	H (1) = 0.00	H (1) = 0.70	H (1) = 0.22	F (1,38) = 0.31	F (1,38) = 13.48
p = 0.871	p = 0.685	p = 0.957	p = 0.401	p = 0.633	p = 0.576	**p = 0.001**

Table S9. Statistical tests for differences in LFN sound parameters between diel (day vs night) and seasonal (NTS vs TS) periods at the MS6 Lošinj (Statistically significant results are highlighted in bold).

Min freq (kHz)	Max freq (kHz)	Peak freq (kHz)	Freq range(kHz)	Duration (s)	Harmonics (*n*)
Day vs Night NTS					
one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA	one-way ANOVA
F (1,145) = 3.27	F (1,145) = 14.78	F (1,145) = 7.39	F (1,145) = 24.36	F (1,145) = 16.38	F (1,145) = 0.42
p = 0.073	**p = 0.000**	**p = 0.007**	**p = 0.000**	**p = 0.000**	p = 0.518
Day vs Night TS					
Kruskal Wallis	Kruskal Wallis	one-way ANOVA	Kruskal Wallis	Kruskal Wallis	one-way ANOVA
H (1) = 4.27	H (1) = 9.98	F (1,208) = 4.37	H (1) = 2.64	H (1) = 1.82	F (1,208) = 0.70
p = 0.039	**p = 0.002**	**p = 0.038**	p = 0.104	p = 0.177	p = 0.403
NTS vs TS					
Kruskal Wallis	Kruskal Wallis	Kruskal Wallis	Kruskal Wallis	one-way ANOVA	Kruskal Wallis
H (1) = 28.69	H (1) = 15.38	H (1) = 18.85	H (1) = 0.00	F (1,355) = 5.65	H (1) = 1.98
p = 0.000	**p = 0.000**	**p = 0.000**	p = 0.998	**p = 0.018**	p = 0.158