

**Supplementary material**

**The effect of on-shore light pollution on sea-turtle hatchlings commencing their off-shore swim**

*Zoe Truscott<sup>A</sup>, David T. Booth<sup>A,C</sup> and Colin J. Limpus<sup>B</sup>*

<sup>A</sup>School of Biological Sciences, The University of Queensland, Qld 4072, Australia.

<sup>B</sup>Threatened Species Unit, Queensland Government Department of Environment and Heritage Protection, Brisbane, Qld 4001, Australia.

<sup>C</sup>Corresponding author. Email: d.booth@uq.edu.au

**Table S1. Lunar visibility (%) and approximate set and rise times for 25 December 2014 through to 30 April 2015**

Source: WillyWeather (<http://moonphases.willyweather.com.au/qld/fitzroy/heron-island.html>, accessed 28 April 2015). The italicised dates represent the nights when the moon was not visible for more than approximately 3 h, between 2000 hours and 0300 hours, the time that most green turtle hatchlings emerge from nests. These are the nights when light pollution may affect hatchlings emerging from nests. Bolded dates are the days when experimental data were collected. Hatchlings started to emerge from nests on 25 December 2014 and continued emerging until the end of April 2015

<b>Date</b>	<b>Luna% visible/set and rise time</b>	<b>Date</b>	<b>Luna% visible/set and rise time</b>	<b>Date</b>	<b>Luna% visible/set and rise time</b>
25/12/2014	26 R9.15am S10pm	17/2/2015	3 R3.24am S5.43pm	12/4/2015	50 R11.41pm S1.09pm
26/12/2014	37 R10am S10.30pm	18/2/2015	1 R4.29am S6.42pm	13/4/2015	36 R12am S2pm
27/12/2014	50 R12am S11.30pm	19/2/2015	0 R5.35am S7.29pm	14/4/2015	26 R12.30am S3pm
28/12/2014	51 R12.30pm S12am	20/2/2015	3 R6.41am S8.07pm	15/4/2015	17 R1.24am S3.57pm
29/12/2014	57 R1.30pm S12.30am	21/2/2015	9 R7.45am S8.53pm	16/4/2015	9 R2.22am S4.51pm
30/12/2014	66 R2pm S2am	22/2/2015	17 R8.49am S9.39pm	17/4/2015	3 R3.24am S5.43pm
31/12/2014	75 R3pm S3am	23/2/2015	26 R9.15am S10pm	18/4/2015	1 R4.29am S6.42pm
1/1/2015	83 R4.15pm S4am	24/2/2015	37 R10am S10.30pm	19/4/2015	0 R5.35am S7.29pm
2/1/2015	90 R4.45pm S4.30am	25/2/2015	48 R10.30am S11pm	20/4/2015	3 R6.41am S8.07pm
3/1/2015	94 R5.15pm S5.07am	26/2/2015	50 R12am S11.30pm	21/4/2015	9 R7.45am S8.53pm
4/1/2015	99 R5.30pm S5.35am	27/2/2015	51 R12.30pm S12am	22/4/2015	17 R8.49am S9.39pm
5/1/2015	100 R5.51pm S5.56am	28/2/2015	57 R1.30pm S12.30am	23/4/2015	26 R9.15am S10pm
6/1/2015	98 R6.27pm S6.46am	1/3/2015	66 R2pm S2am	24/4/2015	37 R10am S10.30pm
7/1/2015	94 R7.51pm S7.30am	2/3/2015	75 R3pm S3am	25/4/2015	48 R10.30am S11pm
8/1/2015	87 R8.40pm S8.49am	3/3/2015	83 R4.15pm S4am	26/4/2015	50 R12am S11.30pm
9/1/2015	83 R9pm S9.39am	4/3/2015	90 R4.45pm S4.30am	27/4/2015	51 R12.30pm S12am
10/1/2015	75 R9.38pm S10.29am	5/3/2015	94 R5.15pm S5.07am	28/4/2015	57 R1.30pm S12.30am
11/1/2015	66 R10.16pm S11.21am	6/3/2015	100 R5.51pm S5.56am	29/4/2015	66 R2pm S2am
12/1/2015	57 R10.57pm S12.14pm	7/3/2015	98 R6.27pm S6.46am	30/4/2015	75 R3pm S3am
13/1/2015	50 R11.41pm S1.09pm	8/3/2015	94 R7.51pm S7.30am		
14/1/2015	36 R12am S2pm	9/3/2015	87 R8.40pm S8.49am		
15/1/2015	26 R12.30am S3pm	10/3/2015	83 R9pm S9.39am		
16/1/2015	17 R1.24am S3.57pm	11/3/2015	75 R9.38pm S10.29am		
17/1/2015	9 R2.22am S4.51pm	12/3/2015	66 R10.16pm S11.21am		
18/1/2015	3 R3.24am S5.43pm	13/3/2015	57 R10.57pm S12.14pm		
19/1/2015	1 R4.29am S6.42pm	14/3/2015	50 R11.41pm S1.09pm		
20/1/2015	0 R5.35am S7.29pm	15/3/2015	36 R12am S2pm		
21/1/2015	3 R6.41am S8.07pm	16/3/2015	26 R12.30am S3pm		
22/1/2015	9 R7.45am S8.53pm	17/3/2015	17 R1.24am S3.57pm		
23/1/2015	17 R8.49am S9.39pm	18/3/2015	8 R5.35am S7.29pm		
24/1/2015	26 R9.15am S10pm	19/3/2015	1 R4.29am S6.42pm		
25/1/2015	37 R10am S10.30pm	20/3/2015	0 R5.35am S7.29pm		
26/1/2015	48 R10.30am S11pm	21/3/2015	3 R6.41am S8.07pm		
27/1/2015	50 R12am S11.30pm	22/3/2015	9 R7.45am S8.53pm		
28/1/2015	51 R12.30pm S12am	23/3/2015	17 R8.49am S9.39pm		
29/1/2015	57 R1.30pm S12.30am	24/3/2015	26 R9.15am S10pm		
30/1/2015	66 R2pm S2am	25/3/2015	37 R10am S10.30pm		
31/1/2015	75 R3pm S3am	26/3/2015	48 R10.30am S11pm		
1/2/2015	83 R4.15pm S4am	27/3/2015	50 R12am S11.30pm		
2/2/2015	90 R4.45pm S4.30am	28/3/2015	57 R1.30pm S12.30am		
3/2/2015	94 R5.15pm S5.07am	29/3/2015	66 R2pm S2am		
4/2/2015	100 R6.30pm S6.21am	30/3/2015	75 R3pm S3am		
5/2/2015	98 R7.15pm S7.11am	31/3/2015	83 R4.15pm S4am		
6/2/2015	94 R7.51pm S7.30am	1/4/2015	90 R4.45pm S4.30am		
7/2/2015	87 R8.40pm S8.49am	2/4/2015	94 R5.15pm S5.07am		
8/2/2015	83 R9pm S9.39am	3/4/2015	100 R6.30pm S6.21am		
9/2/2015	75 R9.38pm S10.29am	4/4/2015	98 R7.15pm S7.11am		
10/2/2015	66 R10.16pm S11.21am	5/4/2015	94 R7.51pm S7.30am		
11/2/2015	57 R10.57pm S12.14pm	6/4/2015	87 R8.40pm S8.49am		
12/2/2015	50 R11.41pm S1.09pm	7/4/2015	83 R9pm S9.39am		
13/2/2015	36 R12am S2pm	8/4/2015	75 R9.38pm S10.29am		
14/2/2015	26 R12.30am S3pm	9/4/2015	66 R10.16pm S11.21am		
15/2/2015	17 R1.24am S3.57pm	10/4/2015	57 R10.57pm S12.14pm		
16/2/2015	9 R2.22am S4.51pm	11/4/2015	57 R1.30pm S12.30am		

**Table S2. Total number of green turtle nests constructed and their location on Heron Island during the 2014–15 nesting season**

Source: Heron Island 2014-2015 nesting records. Queensland Government Department of Environment and Heritage Protection Queensland Turtle Conservation Data Base, Brisbane, Queensland.

Post number	Number of nests
0	0
1	8
2	3
3	7
4	6
5	6
6	14
7	20
8	24
9	34
10	28
11	18
12	28
13	24
14	29
15	20
16	24
17	14
18	16
19	22
20	20
21	17
22	22
23	30
24	31
25	56
26	41
27	46
28	42
29	37
30	55
31	44
32	42
33	19
34	12
35	9
36	4
37	9
38	5
39	1
40	9
41	6
42	1
43	5
44	4
45	15
46	9
47	3
48	15
49	3
50	1
51	12
52	10
53	14
54	15
55	23
56	52
57	34
58	40
59	39
60	61

61	8
62	0
63	0
Total potentially affected by artificial light (posts 0–17)	307
Total unaffected by artificial light (posts 18–63)	959
Total of all nests	1266