SUMMARIES

1974

GH. BALAZS

VERNON ROYAL

NO. 1130
COMPOSITION BOOK
FAINT RULED WITH MARGIN
120 PAGES • 9½ x 7½ IN.
No. 1130-P Has Numbered Pages

S. E. & M. VERNON CO., ELIZABETH, N.J. 07208
DIV. OF THE MEAD CORPORATION

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EXPEDITIONS -
May 30th - June 20
June 27th - July 18
July 26th - August 15

Number of turtles nesting per night.
(1974) .. p 88-92

1974 nesting/hatching season summaries

1974 – Color (♀)

FW 370 small goldish
75 yellowish light colored (olive w/ Brown)
27 PHOTO Goldish flat
49 PHOTO Light colored
73 Goldish color
89 PHOTO Goldish
101 speckled and yellowish
109 Photo Gold
♂ Yellow flaky shell

No copulation scars apparent –
109 (3) – 1 infertile; 110 out of 116 inf (low to H_2O?); 1 Can't locate.
112 (2) – 1 live hatchlings; 1 not staked
118 (1) – good stake but can't locate – possibly no eggs.

Animals with egg counts (No.) / Date(s) counts made

TC								
13	1	42 (192)	2	69 (168)	1	95	1	
15 Gold	1	44	1	72	1	98	1	
16	1	46	1	73	1	99	1	
17-2	2	53	1	74	1	100	2	
23 (96)	1	54	1	76	1	104	1	
27 Gold	1	56	1	80	1	105	1	
32	2	63	1	83	1	106	1	
33	1	64	1	84	1	107	1	
34	1	65	1	87	1	108	1	
41	1	68	1	90	1	109	1	

110	1
111	1
115	1
117	1
121	1
TC	1
21	1
36	1
40	1
43	1
94	1

WS-845	1
WS-850	1
W853	1

AS OF
5/31/74 Pits on East - 20 on S. Point
50 All other AREA - 4-5 look good

JOHN WHEELER ON W-S SEVERAL NIGHTS
DURING THIS PERIOD

7/27 East - Generally very few new pits observed around Is. ("Goods" include 1A6; 1A4; 1A5; 1A6; 2A16; 1A1)

	East	TERN
	6 ? UNKNOWN ? how old	5 ? old
9/24	4 ①	
	↓ NOTHING	

Date
6/1/74
6/7
6/10
6/12
6/18
6/19
6/30
7/5
7/6
7/8 JOHN
7/27
7/29
8/3
8/9
8/12
8/14
9/19
9/24
10/10

— Nesting Pits - ( ) look good 1974

Date	Time	Whale-Skate	Trig.	L. Gin	Gin	Shark
6/1/74	1030	as of 30(2)	as of 5(1)	NC	NC	
6/7		29 ?	NC	NC	NC	
6/10	1250			54?	25?	
6/12	1325	27(3-4)	11(4)			
6/18	1400	32?				
6/19	1400		7?			
6/30	1215	52(10)				
7/5	1200		8?			
7/6	1445			12?	8?	
7/8	1320	14(3)				
John						
7/27		20(6)	8(2)			
7/29	1300				7?	
8/3	1400	9(2)				
8/9	~~0415~~	7(3)				
8/12	1400		poss 5?			
8/14	1200	8(2)				
9/19						
~~9/21~~						
10/10	out					

Nesting Pits

DATE	TIME	WHALE-SKATE	TRIG	LGIN	GIN

Difficult to see buoys from land due to heat in position.

Round	M
0	3M

DATE	TIME
5/31	15
6/1	10
6/2	
6/3	
6/4	
6/5	
6/7	
6/8	
6/9	18
6/9	
6/10	
6/10	
6/11	
6/12	
6/12	
6/13	
6/14	
6/14	
6/15	
6/15	
6/16	
6/17	
6/18	
6/19	
6/19	
////////	
6/27	

BASKING TURTLES - 1974

DATE	TIME	EAST	WHALE-SKATE	TRIG	LITTLE GIN	GIN SHARK
5/31	1530	30 (most F)	NC	NC	NC	NC
6/1	1030	[illegible]	19 (6M 4F)	3 (2M 1F)	NC	NC
6/2	1530	32	NC	NC		
6/3	1900	24	NC	NC		
6/4	1400	25	NC	NC		
	1800	28	NC	NC		
6/5	1630	26	NC	NC		
6/7	1830	17	15 1430	NC		
6/8	1800	14				
6/9	1830	10				
6/9	1130	4				
6/10	1250				1(M)	2(M)
6/10	1600	29				
6/11	1300	12				
6/12	0930	3	14 1200	0 1325		
6/12	1900	17				
6/13	1730	16				
6/14	1330	2				
6/14	1930	4				
6/15	1310	2				
6/15	1900	4				
6/16	1900	6				
6/17	1200	6				
6/18	1400	[illegible]	10 (2M 8F)			
6/19	1400			4 (3F 1M)		
6/19	1830	5				
6/27	1630	6				

DATE	T
6/28	1
6/29	1
6/30	1
7/1	
7/1	
7/2	
7/3	
7/4	
7/5	
7/6	
7/7	
7/7	
7/8	
7/9	
7/10	
7/11	
7/13	
7/13	
7/14	
7/14	
7/16	
7/17	
7/27	1
7/29	
7/30	
8/3	
8/4	

Disappearing survey x/31

BASKING TURTLES - 1974

DATE	TIME	EAST	WHALE-SKATE	TRIG	LGIN	GIN
6/28	1800	6				
6/29	1500	9 (1M8F)				
6/30	1845	5 (5F)	1245 3 (1M 2F)			
7/1	0700	1 (1F)				
7/1	1530	7 (6F)				
7/2	1530	12 (11F)				
7/3	1930	4 (4F)				
7/4	1530	11 (11F)				
7/5	1700	4 (4F)		1200 2 (2F)		
7/6	1200	0			1445 0	1495 2?
7/7	1030	2 (2F)				
7/7	1500	8 (8F)				
7/8	1320	[redacted]	9 (9F)			
7/9	1730	5 (5F)				
7/10	1700		18 (10F 2M TQ4)			
7/11	1830	1 (1F)	1630 9 (8F 1M)			
7/13	1300	3 (3F)				
7/13	1900	5 (3F)				
7/14	1200		5 (2F)			
7/14	1930	[redacted]	5 (5F)			
7/16	1800	6 (5F)				
7/17	1830	1 (1F)				
7/27	1330	NB	1415 4 (2M 2F)	1 (1F T27)		
7/29	1230	NB			0	0
7/30		NB				
8/3	1400	1 (1F)	7 (6F 1M)			
8/4	2200	1 (1F)				

Mullet

8/13-8/14	1(1M) seen on several occassions

DATE

8/9
8/12
8/14
8/15
9/19
9/23
10/4
10/10
12/2

BASKING TURTLES - 1974

DATE	TIME	EAST	WHALE-SKATE	TRIG	LGIN	GIN
8/9	0415	↓NB	5 (F)			
8/12	1400	↓		1 (IF)		
8/14	1200		4 (3F 1M)			
8/15	1330	1 (IF TH18)				
9/19		↓NB			0	0
9/23	1400	↓	1 (IF)	1 (IF)		
10/4	1700	↓NB	4 (4M) 2w tail ½ miss			
10/10	out	↓				
12/2	aerial	0	0	2	1 in lagoon	0

SEA WATER / WEATHER DATA

5/30-8/15 N=26 $\bar{x}$ = 27.25° ± .51

DATE	SEA WATER	AIR TEMP. / WEATHER COND.
5/30/74		
6/2/74	27.5° C	Sunset 7:49
6/3	27.8°	72°-88°
6/4	—	15 MIN light rain
6/5	28°	short rains day and night
6/6	28.2°	short, light rain
6/7	—	74°-90°
6/8	—	cloudy - stronger trades in afternoon
6/9	—	15-20 KN trades, 30 MIN strong rain
6/10	—	N-NE 15-20 KN
6/11	—	Brisk trades all night, some S swell
6/12	—	very calm, light S swell, dark clouds morning
6/13	—	light trades
6/14	—	74°-92° gentle trades
6/15 Sat	—	73-95° light-variable, hot, some light rain
6/16	—	73-86° S-W 10-12KN, hard S rain 1 hour
6/17	—	73-95° strong W-SW wind-rain 2½ hrs
6/18 Tues	—	72-94° clear, calm - trades starting
6/19	—	Moderate trades - Partial overcast
6/20	—	moderate to strong S wind
6/27	27° C	SE 10KN, calm seas
6/28	27.1	76-87° Gentle trades, few light rains
6/29 Sat	27.3°	73-88° Gentle E trades
6/30 SUN	—	75-88° short rain, SE winds light to moderate
7/1	27.3°	71-86° moderate - hard SE wind / rain 30 MIN
7/2	—	Normal moderate trades - 55 few minutes to 8

DATE
7/3/7
7/4
7/5 FR
7/6
7/7
7/8 M
7/9
7/10
7/11
7/12 F
7/13
7/14
7/15
7/16
7/17
7/27 S
7/28
7/29
7/30
7/31
8/1
8/2
8/3
8/4
8/5
8/6

DATE	SEA Water		Air temp. / Weather Cond.
7/3/74	—		early morning short rain, moderate - brisk trades
7/4	—		Brisk trades - choppy seas
7/5 Friday	28°C		strong trades
7/6	27.5°		strong trades
7/7	27°		strong trades - several short rains
7/8 Mon	27°	69-90°	Very large lightning and dark rain storms to N and S
7/9	—	71-94°	short rain early morning, light trades
7/10	27.3°	70-93°	Medium rain early morning, gentle trades
7/11	—	73-93°	gentle trades, calm seas
7/12 Fri	—	74-90°	gentle trades, moderate seas
7/13	—	74-92°	moderate trades, very few clouds
7/14	—	72-90°	short rains all day, stronger trades E - SE
7/15	27°	72-89°	strong trades, several short rains
7/16 Tues	27°	74-88°	strong trades
7/17	27.1°	69-88°	2 hard, cold rains early morning, strong trades
~~7/26 Wed~~			
7/27 Sat	27°		some rain till noon, light - variable
7/28	—	72-89°	E-NE several short rains
7/29	27°	72-94°	light - variable
7/30	—	73-96°	light - variable
7/31 Wed	—	74-98°	light - variable
8/1	—	73-95°	light SE - variable, few rains
8/2	28°	74-93°	E trades - moderate seas
8/3 sat	28°	74-93°	Moderate trades and seas
8/4	27°	71-90°	frequent rains morning - intermittent rain afternoon heavy at NIGHT
8/5	—	70-89°	gentle to moderate trades
8/6	—	73-90°	gentle trades - few short rain

9/20-10/9 N=8 $\bar{x}$=27.91±.82°C

DATE	SEA WATER	AIRTEMP.	WEATHER COND.
8/7/74	26.5°	72-90°	heavy overcast S-SE moderate - few rain
8/8 Thurs	26°	68-86°	strong lightning, steady rain all night
8/9	27°	72-90°	E-SE moderate
8/10	27°	70-91°	E-SE mod. light morning rain
8/11	27°	—	moderate trades, overcast, S surf coming up
8/12 Mon	—	74-93°	light morning rain, E-SE moderate, some SW swell
8/13	—	73-92°	Moderate Trades
8/14	—	—	Moderate Trades
8/15 //////////			
9/20/74	27°		light trades
9/21 SAT	—	75-88°	light trades
9/22	—	74-92°	light and variable
9/23	27°	74-88°	Moderate trades
9/24	—	76-88°	gentle trades
9/25 Wed	—	75-98°	light-variable, glossy seas
9/26	28°	72-100°	" " " "
9/27	—	76-94°	S-SW light
9/28	—	76-93°	S-SW light
9/29 Sun	—	76-96°	S-SW light
9/30	—	74-97°	light and variable - glossy
10/1	29.5°	—	light variable changing to N-NE
10/2	28.5°	73-87°	gentle trades - 5 minute rain
10/3 Thurs	—	68-85°	SUNSET 6:40PM variable - cold rain
10/4	28°	69-89°	light variable, cold rain
10/5	—	73-85°	gentle trades
10/6	—	73-83°	gentle to moderate trades
10/7	27.8°	72-89°	moderate SE wind - rain to South
10/8	27.5°	76-87°	Brisk E-SE wind
10/9 WED			

DATE/TIM

6/1/74
6/2
6/3
6/7
"
6/9
6/10
"
6/12
6/14
6/18
6/19
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6/27
6/30
7/5
7/6
"
"
"
7/7
7/8
7/10
7/11
7/15
7/15
7/16
////

MONK SEAL CENSUS DATA

DATE/TIME	ISLAND	ADULT	SUB-ADULT	PUP	SWP	LYP	PAIRS
6/1/74 1215	W-S	29	9	13			
6/2 1145	EAST	20	4	20	9 w/ NEW		
6/3 1000	TERN	6	4	0			
6/7 1435	W-S	24	11	18	2 w/ VERY NEW		
" "	ROUND	9	0	19	5/ w/ NEW		
6/9 1830	EAST	19	4	24			
6/10 1250	GIN	7	3	0			
" 1335	L GIN	0	1	3			
6/12 1325	TRIG	22	2	2			
6/14 1310	EAST	20	2	20			
6/18 1400	W-S	43	14	15			
6/19 1400	TRIG	8	3	2			
6/27 1900	EAST	16	5	17	9 4 BRAND NEW		
6/30 1215	W-S	43	16	14	3 1 BRAND NEW		
7/5 1200	TRIG	17 (1 preg)	9	4 2♀ 2♂			
7/6 1200	EAST	17 (1 preg)	2	20	8	0	2
" 1400	GIN	1	4	0			
" 1400	GIN SANDSPIT	7	5	0			
" 1445	L GIN	1♂	0	0			
7/7	EAST (?)	21	2	9			
7/8 1320	W-S	42	25	12	3	5 (?)	4
7/10 2340	W-S	26	7	4	4	1	1
7/11 1630	W-S	36	21	11	5	4	2
7/15 1200	W-S	24	17	13	4	4	4
7/15 0100	W-S	22	7	4	4	1	1
7/16 1200	EAST	14	6	19	6 5 NOW NEW	0	1

MONK SEAL CENSUS (CONT.)

DATE	TIME	ISLAND	ADULT	SUB-ADULT	PUP	SWP	LYP	PAIRS
7/26/74	1330	TRIG	7	4	1			
"	1415	Whale-Skate	35	30	17	2	2	3
"	1515	Round	3	1	9	3 1 brand new		
"	1515	Mullet	3	2	3			
"	1615	EAST	10	5	15	5	2	
7/29	1230	LGIN	3	3	2	1 new		
"	1300	GIN	5	5	0		1?	
"	1300	GINSANDSPIT	5	5				
7/30 ~	1400	DISAPPEARING	34	15	1			
8/3	1400	W-S	24	27	15	2 1 BLK	6?	
8/6	1300	EAST	8	11	13	1		
"		Bare Is.	5	2	2			
8/9	0415	W-S	24	25	16	1	5?	4
8/12	1400	TRIG	8	9 + 909 dead	1			
8/13	1500	EAST	7	15	20	1		
8/14	1200	W-S	18	29	9	0	1	3
9/20/74	1400	EAST	4	11	2 Teeth			
9/21	1400	EAST	6	14	8			
9/22	1100	LGIN	3	3	1			
9/23	1230	W-S	17	21	18	0	3	
9/23	1400	TRIG	20	11	0	0	1	1
10/2	1000	EAST	5	9	2			
"	1500	EAST	5	11	2			
"	1500	East Sandspit	4					
10/3	1730	East	8	12	3			
10/4	1700	W-S	19	10	5			
10/9	1500	EAST	7	12	2			

28 Redno: = %

EXACT EGG COUNTS

(From Page 77+ Book 2 1974)

Season CODE

TC	Area	original Date	Depth	Hatch DAYS	live- EVEN/ODD	Hatched but DEAD	Partial	NO apparent DEVELOP	csw	SL	Surface EMERGENCE	EGG COUNT
32	1 7 1	June 2	M24	61	6 6	1 5.6	9 7.1 12.7	7 5.6	1.29	88.3	81.7	1 126
54	7 4 17	June 8	M24"	59	16 16	0 14.4	7 6.3 9.0	3 2.7	1.26	93.3	76.6	2 111
69	10 2 20	June 11	"23"	57	44 9	3 11.1	4 3.7 4.6	1 .9	1.28	91.4	84.3	3 108
33	3 6 6	June 4	MH21	67	0 0	0 0	11 10.9 25.8	15 14.9	1.34	91.4	74.2	4 101
16	8 7 18	June 9	MH21	62	9 9	0 8.4	18 16.8 20.5	4 3.7	1.28	95.3	71.1	5 107
13	3 12 7	June 4	MH22"	68	0 0	0 0	5 6.0 7.2	1 1.2	1.29	92.1	92.8	6 84
32-2	41 1 110	July 12	L 29		41 41	20 52.1	18 15.4 18.0	3 2.6	1.31	92.7	29.9	7 117
80	38 16 91	July 9	MH19		1 1	0 1.0	7 7.1 38.7	31 31.6	1.32	90.2	60.3	8 98
23	42 15 111	July 13	M-24		5 5	1 4.4	16 11.7 14.6	4 2.9	1.31	95.9	81.0	9 137
110	43 15 118	July 14	ML24		2 2	0 1.6	10 8.0 12.0	5 4.0	1.26	94.6	86.4	10 125
15	8 14 19	a June 9	M26		0 0	0 0	11 9.6 17.5	9 7.9	1.32	96.5	82.5	11 114
72	10 14 41	June 11			can't locate				1.27	96.5		103
76	12 12 27	June 13	ML26		0 0	0 0	8 5.7 13.6	11 7.9	1.27	95.3	86.4	12 140
87	16 12 33	June 17	ML23		0 0	0 0	14 13.3 22.8	10 9.5	1.34	94	77.2	13 105
17	31 2 52	July 2	M22		0 0	0 0	13 12.0 14.8	3 2.8	1.31	92.1	85.2	14 108
36	33 3 69	July 4	ML27		0 0	0 0	6 5.6 9.3	4 3.7	1.24	97.8	90.7	15 107
27	15 17 32	June 16	ML25		0 0	1.9	4 3.8 6.6	3 2.8	1.25	95.3	92.5	16 106
41	34 17 77	July 5	M23		1 1	2.1	0 0 2.1	2 2.1	1.31	97.2	95.8	17 94
43	36 17 85	July 7	M23		1 1	0 2.4	0 0.0	0 0	1.19	92.7	97.6	18 41
105	38 17 90	July 9	MH26		0 0	10 7.2	10 7.2 10.1	4 2.9	1.30	94	82.7	19 138
56	33 6 70	July 4	ML24		0 0	3 2.6	7 6.1 14.8	1 8.7	1.30	92.1	82.6	20 114
98	45 5 130	July 16	ML21		14 14	0 17.5	0 0 0	0 0	1.36	93.3	82.5	21 80
84	14 5 30	June 15	ML23		0 0	5 3.4	29 20 35.2	22 15.2	1.25	94.6	61.4	22 145
18	29 11 99	June 30	L22		COUNTED AFTER EXCAVATION			120	1.26	88.3	0	120
95	29 6 50	June 30	MH24		0 0	9 6.3	40 28.2 37.4	13 9.2	1.24	95.7	56.3	23 142
83	14 6 31	June 15	H 17		COUNTED AFTER EXCAVATION			93	1.26	92.7	0	93
94	29 6 51	June 30	H		can't locate				1.29	94.6		131
53	33 6 71	July 4	MH 19		0 0	11 13.6	6 7.4 9.9	2 2.5	1.34	90.8	76.5	24 81

code 1

TC	area
40	40 11 5
106	38 11
34	39 12
17-2	45 12 5
192	58 136 11 5
c1845 846	39 A1-W
c1853	44 A5 W
c1850	40 A2 W
21	16 4
108	41 SP
109	59 5
117	32 5
90	41 SP
109	40 SP
44	63 11
121	67 6
65	72 6
83	62 144 13
83	75 5
74	66 6
111	67 6
64	79 12

code 1

66 COUNT	TC	area	original date	depth	HATCH Days	LIVE-EMERGED	HATCH BUT DEAD	PARTIAL	NO APPAR DEV	CSW	SL	Surface EMERGENCE	EGG COUNT
26	40	40 11 97	July 11	L-21"		1 1	3 4.3	3 3.2 5.3	2 2.1	1.28	91.4	90.4	25 93
11	106	38 11 92	July 9	M25		0 0	0 0	16 13.5 21.1	9 7.6	1.31	94	78.9	26 118
08	34	39 12 93	July 10	ML22		2 2	0 2.9	3 4.4 5.9	1 1.5	1.20	86.4	91.2	27 68
01	17-2	45 129 5	July 16	MH20	72	9 9	1 9.7	16 15.5 21.3	6 5.8	1.31	92.1	69.0	28 103
07	192	58 136 M 5	July 29	MH28		86 0	0 0	7 6.7 18.9	12 11.4	1.29	91.4	81.9	29 105
84	c1845 846	39 94 A1 WS	July 10	MH25		0 0	9 6.8	66 49.6	7 5.3	NT	NT	38.3	~~133~~
17	c1853	44 120 A5 WS	July 15	H24		13 13	1 14.9	1 1.1	3 3.2	NT	NT	80.8	~~94~~
98	c1850	40 98 A2 WS	July 11			can't locate				NT	NT		~~93~~
137	21	16 4 34	June 17	ML24		0 0	5 4.0	32 25.4 35.7	13 10.3	1.20	97.8	60.3	30 126
125	108	41 SP 107	July 12	L-24	76	1 1	0.9	21 18.6 28.3	1 0.7	1.27	90.8	70.8	31 113
114	109	59 139 5	July 30	H23		6 6	0 5.1	2 1.7 94.9	1 0.7	1.28	97.8	0	32 118
103	117	32 68 5	July 3	M23	60	3 3	1 4.2	30 31.6 42.1	10 10.5	1.29	94.6	53.7	33 95
140	90	41 SP 108	July 12	L-25		0 0	0 0	48 50.0 66.7	16 16.7	1.28	93.3	33.3	34 96
105	109	41 SP 109	July 12	L-25		0 0	0 0	COUNTED AFTER EXCAV 3 2.8	105 97.2	1.28	97.8	0	108
108	44	63 11 145	Aug 3	ML21	63	10 10	1 11.6	66 3 7.4	1 1.1	1.24	93.3	81.0	35 95
107	121	67 150 6	Aug 7	H19	60	1 1	0 1.7	3 5.2 22.4	10 17.2	NT	NT	75.9	36 ~~58~~
106	65	72 154 6	Aug 12	L20	55	9 9	0 11.3	5 6.2 8.7	2 2.5	1.23	97.2	80.0	37 80
94	83	62 144A 13	Aug 2	ML24		0	0	0	114 100	1.26	92.7	0	38 114
41	83	75 155 5	Aug 15	H26		0	COUNTED AFTER EXCAV 0	0	90 100	1.26	92.7	0	90
38	74	66 148 6	Aug 6	MH24	63	12 12	0 2.5	7 14.6 16.7	1 2.1	1.31	92.7	58.3	39 48
114	111	67 151 6	Aug 7	~~H25~~		EXCAVATED TO EARLY				1.26	95.3		126
80	* 64	79 95 12	July 10	L22		0 0	0 0	7 18.4 81.6	24 63.2	1.22	88.3	18.9	40 38
45									12.1 ± 21.9			70.2 ± 24.0	
20									N=42			N=42	2 whale-skate without
42						0.1	6.3 ± 9.4	11.8 ± 11.5	10.0 ± 7.1			72.0 ± 21.6	
93							N=41	N=41	N=41			N=41	
31						RANGE	0-52.1	0-50	0-93.2			0-97.6	
8.1													

BIASED selected for low to H_2O layers

				HATCH	live-EVEN MORT		HATCH BUT DEAD		PARTIAL		NO APPARENT		CSW	SL	Surface Emergence	
104	TRANS	37 July 8	L19		0	0	0	0	17	14.3	32	26.9	1.31	90.8	58.8	119
100	TRANS	31 July 2	L20		0	0	0	0	20	21.5	16	17.2	1.32	88.3	61.3	93
99	TRANS	31 July 2	L18		0	0	0	0	8	6.6	15	12.4	NT	NT	81.0	~~121~~
100	TRANS	62/63 Aug 2	L16		9	9	1	10.9	2	2.2	0	0	1.32	88.3	86.9	92
32	Trans	45 July 16	L17		0	0	3	2.8	34	31.5	10	9.3	1.29	88.3	56.4	108
NOT	Trans	43 July 14	L18		0	0	2	2.1	21	22.3	2	2.1	NT	NT	73.5 ~~54.6~~	~~94~~
						0		2.6 ± 4.2		16.4 ± 10.9		11.3 ± 10.0			66.5 ± 13.8	
					N=6		N=6		N=6		N=6				N=6	
							0-10.9		2.2-31.5		0-26.9					

Red no = %

TC	CODE Season No.	Dat[e]
32 ✓	1	6/2
33 ✓	3	6/4
13 ✓	3	6/4
54 ✓	7	6/8
16 ✓	8	6/9
15 ✓	8	6/9
69 ✓	10	6/11
72 ✓	10	6/1
76 ✓	12	6/1
84 ✓	14	6/1
83 ✓	14	6/15
27 ✓	15	6/1
87 ✓	16	6/1
21 ✓	16	6/1
18 ✓	29	6/3
95 ✓	29	6/3
94 ✓	29	6/3
17 ✓	31	7/
TRANS 100	31	7/2
TRANS 99	31	7/2
117 ✓	32	7/3
36 ✓	33	7/
56 ✓	33	7/4
53 ✓	33	7/
41 ✓	34	7/
43 ✓	36	7/
TRANS 104	37	7/
105 ✓	38	7/
80 ✓	38	7/

Red NO = % chronologically – EXACT EGG COUNTS

TC	CODE Season No.	Date	order	EGG COUNT	HB D	PART	NO	Partial NO DEV (+)
32	1	6/2	1	126	5.6	7.1	5.6	12.7
33	3	6/4	6	101	0	10.9	14.9	25.8
13	3	6/4	7	84	0	6.0	1.2	7.2
54	7	6/8	14	111	14.4	6.3	2.7	9.0
16	8	6/9	18	107	8.4	16.8	3.7	20.5
15	8	6/9	19	114	0	9.6	7.9	17.5
69	10	6/11	30	108	11.1	3.7	0.9	4.6
72	10	6/11	31	103	Can't locate			
76	12	6/13	27	140	0	5.7	7.9	13.6
84	14	6/15	30	145	3.4	20	15.2	35.2
83	14	6/15	31	93 INFERTILE	COUNTED AFTER EX		100	100
27	15	6/16	32	106	.9	3.8	2.8	6.6
87	16	6/17	33	105	0	13.3	9.5	22.8
21	16	6/17	34	126	4.0	25.4	10.3	35.7
18	29	6/30	41	120 INFERTILE	COUNTED AFTER EX		100	100
95	29	6/30	50	142	6.3	28.2	9.2	37.4
94	29	6/30	51	131	Can't locate			
17	31	7/2	52	108	0	12.0	2.8	14.8
TRANS 100	31	7/2	(53)	93	0	21.5	17.2	38.7
TRANS 99	31	7/2	(54)	121	0	6.6	12.4	19.0
117	32	7/3	68	95	4.2	31.6	10.5	42.1
36	33	7/4	69	107	0	5.6	3.7	9.3
56	33	7/4	70	114	2.6	6.1	8.7	14.8
53	33	7/4	71	81	13.6	7.4	2.5	9.9
41	34	7/5	77	94	2.1	0	2.1	2.1
43	36	7/7	85	41	2.4	0	0	0
TRANS 104	37	7/8	(86)	119	0	14.3	26.9	41.2
105	38	7/9	90	138	7.2	7.2	2.9	10.1
80	38	7/9	91	98	1.0	7.1	31.6	38.7
106	38	7/9	92	118	0	13.5	7.6	21.1
34	39	7/10	93	68	2.9	4.4	1.5	5.9
CI 845	39	7/10	(94)	WS 133	6.8	49.6	5.3	54.9
*** 40	40	7/11	97	93	4.3	3.2	2.1	5.3
XXXX 108	41	7/12	107	113	9	18.6	9.7	28.3
90	41	7/12	108	96	0	50.0	16.7	66.7
109	41	7/12	109	108	COUNTED AFTER EX	0	28	97.2 100
32-2	41	7/12	110	117	52.1	15.4	7.6	18.0
23	42	7/13	111	137	4.4	11.7	2.9	14.6
110	43	7/14	118	125	1.6	8.8	4.0	12.0
TRANS NOT	43	7/14	(119)	94	2.1	22.3	2.1	24.4
CI 853	44	7/15	(120)	WS 94	14.9	1.1	3.2	4.3
17-2	45	7/16	129	103	9.7	15.5	5.8	9.7
98	45	7/16	130	80	17.5	0	0	0
TRANS 32	45	7/16	(131)	108	2.8	31.5	9.3	40.8
109	57	7/30	139	118	5.1	1.7	92.3	94.9
TRANS 100	62	8/2	(144)	92	10.9	2.7	0	2.2
** 44	63	8/3	145	95	11.6	6.3	1.1	7.4
74	66	8/6	148	48	25.8	14.6	2.1	16.7
121	67	8/7	150	58	1.7	5.2	17.2	22.4
111	67	8/7	151	126	EXCAVED TO EARLY			
65	72	8/12	154	80	11.3	6.2	2.5	8.7
83	75	8/15	155	INFERTILE 90	COUNTED AFTER EX		100	
* 192	58	7/29	136A	105	0	6.7	11.4	18.1
*** 83	62	8/2	144A	INFERTILE 114	0	0	100	100
*** 64	95	8/10		38	0	18.4	63.2	81.6
XXXX 85 WS	40	7/11	(72)	WS 93	can't locate			

First Third =
Second Third =
Third Third =

Five categories for substrate 17 Areas + SP

L (1) LM (ML) (2) M (3) MH (4) H (5)

Total - All 1974 EGG COUNTS $\bar{x} = 103.6 \pm 23.3$ (104 and consider separately.) $N = 56$

Range = 38 - 145

- area with soil type?

RATIONALE: Soil on W-S is consistently heavier grade than East.

Whale-Skate Nests

W-S nests are mostly H or MH soil, therefore should not use for regression with time as even sampling did not take place. most W-S were made during mid-July. If used, this would bias data. Heavier soil may affect HBD, partial or no development.

Graph of soil type by time should not include W-S, so that comparison can be made with time regression to see if more H or MH, etc nests were sampled within a given time.

Turtle size in length by clutch size at time and?

$Y = -265.505 + (.36034)X_1 + 83.8572X_2 + 2.94722X_3$

Chronologically - Nest excavations without EGG COUNT

X_1 = Time
X_2 = GW
X_3 = SL

Y = Mean of Counts - 104 EGGS

TC	Hatch Days	Date		Depth	Live-Event Mort.	HB DEAD	Partial	NO	Surface EMERGENCE	Partial NO	Regr. Eggs	HB	Partial	NO	GSW	SL	Surface Area
23	69	6/7	13	L-24	5 5	0 4.8	1 1 0.6	8 7.7	76.9	18.6	127	3.9	8.7	6.3	1.31	95.9	81.
22	70	6/2	12	LM-25	7 7	0 6.7	2 1.9	9 8.7	82.7	10.6	138	5.1	1.4	6.5	1.29	100.3	87
34		6/2	12	L-21	0 0	0 0	3 2.9	5 4.8	92.3	7.7	89	0	3.4	5.6	1.20	86.4	91
270		6/3	8	Sand-M24	14 14	0 13.5	14 13.5	1 1.0	72.0	14.5	89	15.7	15.7	1.1	1.25	85.1	67.5
44	66	6/4	12	L23	2 2	1 2.9	0 0	24 23.1	74.0	23.1	112	2.7	0	21.4	1.24	93.3	75.9
44	2 NAUPS	6/4	12	ML 24	0 0	0 0	4 3.8	22 21.2	75.0	25.0	114	0	3.5	19.3	1.27	93.7	77.2
47		6/5	17	Sand ML24	0 0	0 0	46 44.2	2 1.9	53.9	46.1	111	0	41.4	1.8	1.27	92.1	86.8
5	61	6/7	5	H-20	46 46	3 47.1	9 8.7	2 1.9	42.3	10.6	148	33.1	6.1	1.4	1.23	106	59.4
56	67	6/7	5	MH-19	0 0	1 1.0	22 21.2	17 16.3	61.5	37.5	113	0.9	19.5	15.0	1.30	92.1	64.6
48	66	6/7	10	LM-19	4 4	0 3.8	0 0	0 0	96.2	0	101	4.0	0	0	1.27	88.9	96
53		6/7	SP	ML 24	1 1	11 11.5	7 6.7	1 1.0	80.8	7.7	112	10.7	6.3	.9	1.34	90.8	82.1
58		6/7	10	L-22	0 0	0 0	10 9.6	19 18.3	72.1	27.9	114	0	8.8	16.7	1.29	92.7	74.5
63		6/8	12	ML-27	0 0	2 1.9	5 4.8	3 2.9	90.4	7.7	122	1.6	4.1	2.5	1.30	95.3	91.8
70		6/11	5	MH 24	0 0	13 12.5	22 21.2	49 47.1	19.2	68.3	132	9.8	16.7	37.1	1.23	101	36.4
74	54	6/13	12	L-25	11 11	2 12.3	4 3.8	2 1.9	82.0	5.7	114	11.4	3.3	1.8	1.31	92.7	83.5
1		6/13	SP	- L24	1 1	3 3.8	26 25.0	4 3.8	67.4	28.8	111	3.6	23.4	3.6	1.41	88.9	69.4
71		6/13	SP	- L24	4 4	9 12.5	6 5.8	2 1.9	79.8	7.7	123	10.6	4.9	1.6	1.27	97.2	82.9
74	Scarbor	6/13	12	L 25	0 0	1 1.0	0 0	2 1.9	97.1	1.9	H2	.9	0	1.8	1.27	93.7	97.3
34		6/14	12	L 23	0 0	4 3.8	1 1.0	0 0	95.2	1.0	85	4.7	1.2	0	1.20	86.4	94.1
22		6/15	12	ML-28	0 0	2 1.9	1 1.0	9 8.7	88.4	9.7	134	1.5	.7	6.7	1.29	100.3	91.1
39		6/17	5	MH26	0 0	4 3.8	0 0	1 1.0	95.2	1.0	112	3.6	0	.9	1.24	94.6	95.5
88		6/17		MH20	0 0	0 0	4 3.8	39 37.5	58.7	41.3	113	0	3.5	34.5	1.28	94.0	62
89		6/19	10	M 22	0 0	1 1.0	1 1.0	12 11.5	86.5	12.5	100	1.0	1.0	12.0	1.24	90.8	86
5		6/20	5	M 23	0 0	9 8.7	4 3.8	1 1.0	86.5	4.8	144	6.3	2.8	.7	1.23	106	90.2
56		6/20	SP	L 32	0 0	0 0	0 0	4 3.8	96.2	3.8	109	0	0	3.7	1.30	92.1	96.3
8		6/28	1	L 28	0 0	0 0	3 2.9	7 6.7	90.4	9.6	109	0	2.8	6.4	1.25	94.6	90.8
34		6/28	12	ML 27	0 0	1 1.0	0 0	1 1.0	98.0	1.0	81	1.2	0	1.2	1.20	86.4	97.6
92		6/29	6	ML 21	0 0	0 0	5 4.8	10 9.6	85.6	14.4	109	0	4.6	9.2	1.37	91.4	86.2

	TC	Date	AREA	Depth	Live even. moth.	HB Dead	Partial	NO	Surface EMERGENCE	Part + No			PART	SUR EM	NO	SCW	SL
	23	6/30	11	ML 27	0 0	1 1.0	16 15.4	16 15.4	68.2	30.8	117.9		13.7	71.7	13.7	1.31	95.9
95.9	33	6/29	4	L-23	0 0	7 6.7	0 0	10 9.6	83.7	9.6	107	6.5	0	84.2	9.3	1.34	91.4
100.3	27	6/30	1	L 27	0 0	0 0	13 12.5	12 11.5	76.0	24.0	110	0	11.8	77.3	10.9	1.25	95.3
86.4	21	6/30	5	H-25	0 0	7 6.7	22 21.2	12 11.5	60.6	32.7	114	6.1	19.3	64.1	10.5	1.20	97.8
85.1	54	6/30	6	MH 25	0 0	1 1.0	3 2.9	6 5.8	90.3	8.7	105	1.0	2.9	90.4	5.7	1.26	93.3
93.3	40	6/28	9	ML 25	0 0	9 8.7	3 2.9	4 3.8	84.6	6.7	102	8.8	2.9	84.4	3.9	1.28	91.4
93.7	32-2	6/30	5	MH 26	0 0	6 5.8	4 3.8	3 2.9	87.5	6.7	108	5.6	3.7	87.9	2.8	1.31	92.7
92.1	88	7/2	SP	L-24	38 0	1 1.0	23 22.1	3 2.9	74.0	25.0	108	.9	21.3	75	2.8	1.28	94.0
106	46	7/2	1	ML 27	2 2	2 3.8	6 5.8	12 11.5	78.9	17.3	116	3.4	5.2	81.1	10.3	1.28	96.5
92.1	47	7/2	17	M-31	8 8	13 20.2	1 1.0	3 2.9	75.9	3.9	102	20.6	1.0	75.9	2.9	1.27	92.1
88.9	62	7/2	7	L 24	0 0	4 3.8	2 1.9	0 0	94.3	1.9	106	3.8	1.9	94.3	0	1.30	92.7
90.8	5	7/2	9	L 24	0 0	2 1.9	15 14.4	7 6.7	77.0	21.1	151	1.4	10.8	82.8	5.0	1.23	106
92.7	32	7/2	13	ML 21	0 0	0 0	7 6.7	46 44.2	49.1	50.9	92	0	7.6	42.4	50.0	1.29	88.3
95.3	98	7/2	6	H 26	0 0	0 0	14 13.5	22 21.2	65.3	34.7	113	0	12.4	68.1	19.5	1.36	93.3
101	89	7/3	SP-L	L-24	2 2	0 1.9	8 7.7	18 17.3	73.1	25.0	95	2.1	8.4	70.6	18.9	1.24	90.8
92.7	6	7/2	6	M 28	0 0	5 4.8	38 36.5	16 15.4	43.3	51.9	112	4.5	33.9	47.3	14.3	1.28	95.3
88.9	42	7/2	6	H 30	7 7	6 12.5	4 3.8	5 4.8	78.9	8.6	101	12.9	4.0	78.1	5.0	1.29	91.4
97.2	101	7/3	11	M 22	0 0	3 2.9	4 3.8	11 10.6	82.7	14.4	129	2.3	3.1	86.1	8.5	1.39	97.8
93.2	2	7/3	SEP	Sand M-25	28 28	3 2.98	2 1.9	0 0	68.3	1.9	79	39.2	2.5	58.3	0	1.25	85.1
86.4	65	7/4	5	ML-20	0 0	0 0	8 7.7	38 36.6	55.7	44.3	113	0	7.1	59.3	33.6	1.23	97.2
100.3	87	7/4	11	ML-21	0 0	1 1.0	6 5.8	2 1.9	91.3	7.7	113	.9	5.3	92	1.8	1.34	94
94.6	102	7/3	6	MH-20	0 0	2 1.9	20 19.2	4 3.8	75.1	23.0	95	2.1	21.0	72.7	4.2	1.27	90
94.0	391	7/5	16	MH 24	0 0	0 0	1 1.0	3 2.9	96.1	3.9	99	0	1.0	96	3.0	1.27	91.4
90.8	15	7/5	5	MH 25	0 0	0 0	3 2.9	0 0	97.1	2.9	118	0	2.5	97.5	0	1.32	96.5
90.6	17-1	7/5	16	Sand M-30	0 0	0 0	6 5.8	44 42.3	51.9	48.1	94	0	6.4	46.8	46.8	1.17	92.7
92.1	78 59	7/6	6	H 24	0 0	3 2.9	26 25.0	4 3.8	68.3	72.1	90	3.3	28.9	63.4	4.4	1.24	89.5
94.6	63 VIII	7/6	8	H 23	0 0	15 14.4	5 4.8	0 0	80.8	4.8	113	13.3	4.4	82.3	0	1.30	95.3
86.4	58 IX	7/6	14	L 18	0 0	2 1.9	31 29.8	25 24.0	44.3	53.8	104	1.9	29.8	44.3	24.0	1.29	92.7
91.4	103	7/6	3	ML 21	0 0	4 3.8	13 12.5	18 17.3	66.4	29.8	99	4.0	13.0	65	18.0	1.28	91.4

EX Without EGG COUNTS

TC	DATE	AREA	DEPTH	LIVE-EVEN/MAR	HB DEAD	PARTIAL	NO	SURFACE EMERGENCE	PART + NO				SUR EM	NO	CSW
72	7/6	12	M 23	2 2	0 1.9	3 2.9	9 8.7	86.5	11.6	114	1.7	2.6	87.8	7.9	1.27
25	7/7	16	M Sa/30	0 0	0 0	5 4.8	19 18.3	76.9	23.1	104	0	4.8	76.9	18.3	1.27
66	7/7	5	M 25	0 0	11 10.6	0 0	109.6	79.8	9.6	89	12.4	0	76.4	11.2	1.31
69	7/8	3	ML 24	0 0	8 7.7	4 3.8	1 1.0	87.5	4.8	99	8.1	4.0	86.9	1.0	1.28
74	7/9	17	ML 26	4 4	0 3.8	15 14.4	5 4.8	77.0	19.2	105	3.8	14.9	77	4.8	1.31
107	7/9	5	M 23	6 6	55 58.7	2 1.9	6 5.8	33.6	7.7	97	62.8	2.1	28.9	6.2	1.31
82	7/10	6	ML 24	2 2	23 8	3 2.9	4 3.8	89.5	6.7	98	4.1	3.1	88.7	4.1	1.25
57	7/11	5	M 24	1 1	0 1.0	0 0	3 2.9	96.1	2.9	97	1.0	0	95.9	3.1	1.18
9	7/11	11	L 26	0 0	0 0	0 0	1 1.0	99.0	1.0	103	0	0	99	1.0	1.23
WS	7/11	11 WS	H-25	2 2	49 47.0	8 7.7	17 16.3	27.0	24.0						
WS	7/11	8 ws	coral gravel 19	0 0	4 3.8	26 25.0	3 2.9	68.3	27.9						
54	7/12	3	ML 26	0 0	22 21.2	9 8.7	109.6	60.5	18.3	101	21.8	8.9	59.4	9.9	1.26
86	7/12	7	H 16	0 0	5 4.8	10 9.6	28 26.9	58.7	36.5	114	4.9	8.8	62.2	24.6	1.28
39	7/12	5	M 22	0 0	2 1.9	3 2.9	1 1.0	94.2	3.9	104	1.9	2.9	94.2	1.0	1.24
TUNK	7/13	6	ML 21	0 0	14 13.5	55 52.9	4 3.8	29.8	56.8	103	13.7	53.9	28.5	3.9	1.27
46	7/14	2	L 21	1 defor	0 1.0	9 8.7	61 58.7	31.6	67.4	112	9	8.0	36.6	54.5	1.28
27	7/14	3	M 28	11 11	7 17.3	11 10.6	5 4.8	67.3	15.4	106	17.0	10.4	67.9	4.7	1.25
89 80	7/14	15	M 22	0 0	6 5.8	2 1.9	9 8.7	83.6	10.6	92	6.5	2.2	81.5	9.8	1.24
8 62	7/14	16	Sand MH 31	3 3	0 2.9	1 1.0	4 3.8	92.3	4.8	104	2.9	1.0	92.3	3.8	1.25
5	7/14	4	M 23	1 1	16 16.3	5 4.8	0 0	78.9	4.8	136	12.5	3.7	83.8	0	1.23
62	7/15	12	ML-27	2 2	0 1.9	1 1.0	3 2.9	94.2	3.9	102	2.0	1.0	94.1	2.9	1.30
111 73	7/15	12	L 28	14 14	0 13.5	28 26.9	26 25.0	34.6	51.9	106	13.2	26.4	35.9	24.5	1.26
49	7/15	SP	Sand L-25	3 3	4 6.7	16 15.4	11 10.6	67.3	26.0	104	6.7	15.4	67.3	10.6	1.32
88 80	7/15	SP	Sand L-27	3 3	8 10.6	34 32.7	2 1.9	54.8	34.6	103	10.6	32.7	54.8	1.9	1.28
65	7/16	6	ML 21	6 6	3 8.7	3 2.9	2 1.9	86.5	4.8	109	8.3	2.8	87.1	1.8	1.23
95	7/15	5	HH 24	2 2	26 26.9	5 4.8	6 5.8	62.5	10.6	106	26.4	4.7	63.2	5.7	1.24
42	7/16	5	H-25	0 0	32 30.8	7 6.7	113	0	100						
WS 14	7/11	WS	HH 23	0 0	23 22.1	13 12.5	4 3.8	61.6	16.3						

CSW	SL	TC	Date	AREA	DEPTH	LIVE EVEN MORT	HB DEAD	PARTIAL	NO	SURFACE EMERGENCE	Part + NO	EGGS	HBD	SUR EM	Part	NO	CSW	SL
1.27	96.5	97 45	7/16 128	SP	Sand L-26	0 0	0 0	0 0	2 1.9	98.1	1.9	84	0	97.6	0	2.4	1.31	96.4
1.27	93.3	: 2 46 71	7/17 132	5	H 19	8 8	0 7.7	6 5.8	3 2.9	83.6	8.7	75	10.7	77.3	8.0	4.0	1.25	85.1
1.31	87	56 46 71	7/17 133	1	Sand M 23	1 1	0 1.0	16 15.4	12 11.5	72.1	26.9	99	1.0	71	16.0	12.0	1.30	92.1
1.28	91.4	73 47	7/18 134	5	H 24	0 0	5 4.8	4 3.8	2 1.9	89.5	5.7	102	4.9	89.2	3.9	2.0	1.40	90.2
1.31	92.7	XVI 27 58 61	7/29 135	3	M 26	18 18	0 17.3	1 1.0	7 6.7	75.0	7.7	101	17.8	79.3	1.0	6.9	1.45	95.3
1.31	90.2	65 58 65	7/29 136	5	ML 22	1 1	0 1.0	2 1.9	2 1.9	96.1	3.8	105	1.0	95.2	1.9	1.9	1.23	97.2
1.25	92.1	85 59	7/30 137	5	ML 19	0 0	1 1.0	98.7	10 9.6	80.7	18.3	89	1.1	77.6	10.1	11.2	1.32	89.5
1.18	94	113 59	7/30 138	8	H 17	0 0	0 0	0 0	55 52.9	47.1	52.9	93	0	40.9	0	59.1	1.24	92.1
1.23	94.6	73 60	7/31 140	5	L 24	3 3	0 2.9	6 5.8	4 3.8	87.5	9.6	98	3.1	86.7	6.1	4.1	1.40	90.2
		XX 98 61 62	8/1 141	5 TO 12	L 23	11 11	0 10.6	3 2.9	2 1.9	84.6	4.8	103	10.6	84.6	2.9	1.9	1.36	93.3
		XI 70 62	8/2 143	6	ML 23	5 5	1 5.8	9 8.7	39 37.5	48.0	46.2	114	5.3	52.6	7.9	34.2	1.33	101
1.26	93.3	VII 48 60 63	8/2 143	2	L 25	9 9	0 8.7	1 1.0	6 5.8	84.5	6.8	82	11.0	80.5	1.2	7.3	1.27	88.9
1.28	97.2	41 56 64	8/4 146	16	ML 27	35 35	0 33.7	1 1.0	20 19.2	46.1	20.2	109	32.1	48.7	.9	18.3	1.34	97.2
1.24	94.6	: 2 61 67	8/1 141A	5	MH 22	0 0	6 5.8	29 27.9	64 61.6	4.7	89.5	~~70~~	8.6		41.9	91.4	1.25	85.1
1.27	93.2	80 65 61	8/5 147	5	ML 22	7 7	1 7.7	15 14.4	20 19.2	58.7	33.6	89	9.0	51.7	16.8	22.5	1.32	90.2
1.28	96.5	86 66 61	8/6 149	9	MH 25	30 30	1 29.8	0 0	26 25.0	45.2	25.0	106	29.2	46.3	0	24.5	1.28	97.2
1.25	95.3	XIX 62 68 61	8/8 153	6	ML 25	3 3	2 4.8	4 3.8	2 1.9	89.5	5.7	94	5.3	88.3	4.3	2.1	1.30	92.3
1.24	90.8	V 5 70 56	8/10 152	6	H 23	46 40	2 40.4	0 0	4 3.8	55.8	3.8	127	33.1	63.8	0	3.1	1.23	106
1.25	94.6	Poss 84 71 8/11	8/11 153	6	VEG MH 21	44 44	2 49.2	7 6.7	2 1.9	47.2	8.6	94	48.9	41.6	7.4	2.1	1.25	94.6
1.23	106									72.2 ± 21.1 N=104		N=99 $\bar{X}$=106.5 ± 13.8	N=99 $\bar{X}$=74.7 ± 18.0					
1.30	92.7																	
1.26	95.3																	
1.32	92.7																	
1.28	94.0																	
1.23	97.2																	
1.24	95.9																	

$y = a + bx_1 + bx_2 + bx_3 =$

$-268.704 + (-.270564\, bx_1) + (93.7686 x_2) + (2.81861\, bx_3) =$ predicted no. eggs

$N = 50$

UNKNOWN
30 EX without EGG COUNTS

Intertile clutch detection not possible

TC	DATE	AREA	Depth	Live-EVEN. Most	HB Dead	Partial	NO	SURFACE EMERGENCE
UNK	UNK	3	–	0 0	0 0	7 6.7	1 1.0	92.3
UNK	"	5	–	9 9	0 8.7	1 1.0	0 0	90.3
"	"	4	–	6 6	0 5.8	1 1.0	9 8.7	84.5
"	"	8	–	45 6	0 5.8	7 6.7	5 4.8	82.7
X "	"	7	–	36 6	0 5.8	10 9.6	7 6.7	77.9
"	6/1	11	–	21 10	0 9.6	5 4.8	2 1.9	83.7
"	UNK	3	–	5 5	0 4.8	7 6.7	3 2.9	85.6
"	"	5	–	2 2	0 1.9	2 1.9	5 4.8	91.4
"	"	7	–	6 6	3 wire 8.7	2 1.9	3 2.9	86.5
"	"	7	–	47 17	0 16.3	6 5.8	3 2.9	75.0
"	"	5	20	3 3	0 2.9	7 6.7	1 1.0	89.4
* "	"	5	26	31 25	0 24.0	0 0	0 0	76.0
"	"	9	LM 19	41 41	1 40.4	1 1.0	3 2.9	55.7
X "	" on 6/14	4	M 23	14 14	0 13.5	0 0	4 3.8	82.7
"	"	4	LM 24	0 0	5 4.8	9 8.7	3 2.9	83.6
"	"	8	MH 23	54 6	0 5.8	9 8.7	3 2 30.8	54.7
X "	6/22-6/27	11	ML 21	0 0	1 1.0	0 0	1 1.0	98.0
"	"	5	MH 22	4 4	0 3.8	4 3.8	2 1.9	90.5
WS "	"	A9-WS	Sand M 31	61 61	0 58.0	1 1.0	5 4.8	35.6
"	"	SP	Sand L 21	2 2	0 1.9	22 21.2	6 5.8	71.1
"	"	1	L 25	0 0	1 1.0	3 2.9	2 1.9	94.2
"	"	5	MH 28	12 12	4 15.4	0 0	20 19.2	65.4
"	"	5	H 25	3 3	20 22.1	11 10.6	30 28.8	38.5
"	"	SP	Sand L 26	12 12	0 11.5	3 2.9	4 3.8	81.8
"	"	5	H 21	6 6	0 5.8	6 5.8	1 1.0	87.4
"	"	5	H 22	24 24	1 24.0	5 4.8	3 2.9	68.3
"	"	SP	Sand L 24	4 4	0 3.8	9 8.7	8 7.7	79.8
"	"	5	H 19	0 0	0 0	9 8.7	14 13.5	77.8
"	"	17	MH 26	0 0	0 0	23 22.1	11 10.6	67.3

Recalculate for just EAST

$\bar{x} = 73.4 \pm 20.0$ $N = 133$ Surface emergence

10.3 ± 14.6 $N = 133$ NO DEVELOPMENT

7.8 ± 9.3 $N = 133$ PARTIAL DEVELOPMENT

8.4 ± 11.2 $N = 133$ HATCHED BUT DEAD

Depth

$\bar{x} = 23.7 \pm 3.0$ $N = 160$ range -

N=39

EXACT EGG COUNTS - SOIL TYPE - - HATCHED BUT DEAD

INFERTILE NESTS NOT USED

Light	Light-Medium	Medium	Medium-Heavy	Heavy
TC 32-2 52.1%	TC 13 0%	54 14.4%	TC 16 8.4%	853 WS 14.9
40 4.3	110 1.6	23 4.4	33 0%	109 5.1
108 0.9	76 0	15 0	80 1.0	121 1.7
90 0	87 0	17 0	105 7.2	7.2 ± 6.9 N=3
65 11.3	36 0	27 0.9	95 6.3	
64 0	56 2.6	41 2.1	53 13.6	
11.4 ± 20.4 N=6	98 17.5	43 2.4	17-2 9.7	
	84 3.4	106 0	192 0	
	94 2.9	117 4.2	845 WS 6.8	
	21 4.0	3.4 ± 4.8 N=8	74 25.0	
	44 11.6		7.8 ± 7.5 N=10	
	3.7 ± 5.4 N=12			

18 INF

109

83 INF

83 INF

EX without EGG COUNTS

- SOIL TYPE - HATCHED BUT DEAD

INFERTILE NESTS NOT USED

LIGHT	LIGHT-Medium	Medium	Medium-Heavy	Heavy
23 4.8%	22 6.7%	2 13.5%	56 1.0%	5 47.1%
34 0	44 0	89 1.0	70 12.5	21 6.7
44 2.9	47 0	5 8.7	39 3.8	98 0
58 0	48 3.8	47 20.2	88 0	42 12.5
74 12.3	63 1.9	16 4.8	54 1.0	78 2.9
1 3.8	22 1.9	101 2.9	32-2 5.8	63 14.4
71 12.5	34 1.0	2 29.8	102 1.9	107 58.7
74 1.0	92 0	17.1 0	391 0	WS 49.0
34 3.8	23 1.0	72 1.9	15 0	86 4.8
56 0	40 8.7	66 10.6	8 2.9	95 26.9
8 0	46 3.8	57 1.0	2 5.8	~~42 30.8~~
33 6.7	32 0	39 1.9	86 29.8	94WS 22.1
27 0	65 0	27 17.3	89 44.2	2 7.7
88 1.0	87 1.0	89 5.8	UNK 5.8	73 4.8
62 3.8	103 3.8	5 16.3	UNK 3.8	113 0
5 1.9	69 7.7	56 1.0	UNK 0	5 40.4
89 1.9	74 3.8	27 17.3	7.4 ± 12.9 N = 16	UNK 15.4
58 1.9	82 3.8	UNK 13.5		UNK 22.1
9 0	54 21.2	9.3 ± 8.5 N = 18		UNK 5.8
46 1.0	UNK 13.5			UNK 24.0
111 13.5	62 1.9	UNK W-S 58.6		UNK 0
49 6.7	65 8.7			18.3 ± 17.9 N = 20
88 10.6	65 1.0			
97 0	85 1.0			
73 2.9	70 5.8			
98 10.6	41 33.7			
48 8.7	80 7.7			
UNK 1.9	62 4.8			

	LIGHT	LIGHT-MEDIUM	MEDIUM	MEDIUM-HEAVY	HEAVY	
	UNK 1.0	UNK 40.4				
		UNK 4.8				
	UNK 11.5	UNK 1.0				
	UNK 3.8	6.3 ± 9.4 N = 31				
	4.2 ± 4.4 N = 31					
TOTAL HBD (COUNT + NO COUNT) + WS + UNK	5.4 ± 9.0 N = 37	5.6 ± 8.5 N = 43	9.4 ± 12.5 N = 27	7.6 ± 10.6 N = 26	16.8 ± 17.2 N = 23	N = 156
%	23.7	27.6	17.3	16.7	14.7	
INFERTILE NESTS NOT USED (4)						
TOTAL HBD (COUNT + NO COUNT)	5.5 ± 9.4 N = 33	4.8 ± 6.8 N = 40	7.3 ± 8.0 N = 25	8.2 ± 11.3 N = 22	15.6 ± 18.8 N = 15	N = 135
%	24.5	29.6	18.5	16.3	11.1	

would appear to be valid figures of types present on W-S
introduces bias - possibly better to also include
East Island UNK data tests to obtain larger N

Code for DAYS of the 1975 season monitored

6/			7/				8/		
June	2	1	July	1	30		30	59
	3	2		2	31		31	60
	4	3		3	32	Aug	1	61
	5	4		4	33		2	62
	6	5		5	34		3	63
	7	6		6	35		4	64
	8	7		7	36		5	65
	9	8		8	37		6	66
	10	9		9	38		7	67
=156	11	10		10	39		8	68
	12	11		11	40		9	69
	13	12		12	41		10	70
	14	13		13	42		11	71
	15	14		14	43		12	72
	16	15		15	44		13	73
	17	16		16	45		14	74
	18	17		17	46		15	75
=135	19	18		18	47			
	20	19		19	48			
	21	20		20	49			
	22	21		21	50			
	23	22		22	51			
	24	23		23	52			
	25	24		24	53			
	26	25		25	54			
	27	26		26	55			
	28	27		27	56			
	29	28		28	57			
	30	29		29	58			

Snedecor
P 179
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$y = mx + b$

Time (Does the time within a year that a nest is laid affect ...)

1. % EM by Time

slope m	−0.29578 (m units of y per unit of x)
y intercept-b	+80.66521
r =	−0.22825 P<.01
t =	−2.79367
n−2 =	142

$y = -0.29578x + 80.66521$

4. % NO DEVELOP by Time

	+0.21167
	+6.54648
	+0.17934 P<.05
	+2.17242
	142

3. % Partial DEVELOP by Time

slope m	−0.03279
y intercept-b	+10.08891
r =	−0.05937 Not significant
t =	−0.69868
n−2 =	138

2. % HBD by Time

	+0.13791
	+2.52528
	+0.23770 P<.01
	+2.87480
	138

only includes nests used in "Time"

Tests of Sampling Validity

Soil Type by Time

(Were more nests of a particular soil type sampled at one depth than another?)

slope m	+0.01029
y intercept-b	+2.26199
r =	+0.13993 Not significant
t =	+1.66018
n−2	138

Depth by Time

	−0.00426
	+23.88456
	−0.02610 not significant
	−0.30345

paired Regressions

TC
109
109
32
32
TRANS
32
83
83
83
TRANS
100
TRANS
100

INDIVIDUALS (CHRONOLOGICALLY)

TC	DATE	EGGS	Predicted % HBD	% PART	% NO	% PART + NO	% EMERGENCE
109	7/12 41	108	0	2.8	97.2	100	0
109	7/30 59	118	5.1	1.7	93.2	94.9	0
32	6/2 1	126	5.6	7.1	5.6	12.7	81.7
32	7/2 31	? 92	0	~~6.7 7.6~~	~~44.2 50~~	50.9	~~49.4~~
TRANS 32	7/16 45	108	2.8	31.5	9.3	40.8	56.4
83	6/15 14	93	—	—	100	—	0
83	8/2 62	114	—	—	100	—	0
83	8/15 75	90	—	—	100	—	0
TRANS 100	7/2 31	93	0	21.5	17.2	38.7	61.3
TRANS 100	8/2 62	92	10.9	2.2	0	2.2	86.9

Soil Type (Does soil type affect-
(includes W-S and UNK data sets)

	1. % EM by Soil Type	2. % HB by Soil Type
slope m	−3.25545	+2.17990
y intercept-b	+80.18323	+2.24230
r =	−0.20866 P<.05-.01	+0.25634 P<.01
t =	−2.65628	+3.29114
n-2 =	155	154

	3. % Partial by Soil Type	4. % No Devel (No possible) by Soil Type
slope m		
y intercept-b		
r =		
t =		
n-2 =		

Depth by Soil Type (Does soil type affect nest depth?)

slope m	−0.28163
y intercept-b	24.45702
r =	−0.13559 not signfnt
t =	−1.68728
n-2	152

Paired regressions ↑

TC
23
23
23
22
22
34
34
34
34
2
2
2
2
47
47
5
5
5
5
5

Predicted

TC	DATE	EGGS	HBD	PART	NO	PART+NO	% EMERGENCE	
23	6/2 1	? 127	~~4.8~~ 3.9	~~10.6~~ 8.7	~~7.7~~ 6.3	~~18.6~~	~~76.9~~ 81.1	
23	6/30 29	? ~~117~~	~~4.0~~ 3.9	~~15.7~~ 13.7	~~15.4~~ 13.7	30.8	~~68.2~~ 71.7	3
23	7/13 42	137	4.4	11.7	2.9	14.6	81.0	
22	6/2 1	? 138	~~6.7~~ 5.1	~~1.9~~ 1.4	~~8.7~~ 6.5	~~10.6~~	~~82.7~~ 87	
22	6/15 14	? 134	~~1.9~~ 1.5	~~1.0~~ 1.7	~~8.7~~ 6.7	~~9.7~~	~~88.4~~ 91.1	2
34	6/2 1	? 89	~~1.0~~ 0	~~2.9~~ 3.4	~~4.8~~ 5.6	~~7.7~~	~~92.3~~ 91	
34	6/14 13	? 85	~~3.8~~ 4.7	~~1.0~~ 1.2	~~0~~ 0	~~1.0~~	~~95.2~~ 94.1	
34	6/28 27	? 81	~~1.0~~ 1.2	~~0~~ 0	~~1.0~~ 1.2	~~1.0~~	~~98.0~~ 97.6	4
34	7/10 39	68	2.9	4.4	1.5	5.9	91.2	
2	6/3 2	? 89	~~13.5~~ 15.7	~~13.5~~ 15.7	~~1.0~~ 1.1	~~14.5~~	~~72.0~~ 67.5	
2	7/3 32	? ~~79~~	~~29.8~~ 39.2	~~1.9~~ 2.5	~~0~~ 0	~~1.9~~	~~68.3~~ 58.3	3 4
2	7/17 132	? ~~75~~	~~7.7~~ 10.7	~~5.8~~ 8.0	~~2.9~~ 4.0	~~8.7~~	~~83.6~~ 77.3	
~~2~~	~~8/1 1911~~	? ~~70~~	~~5.8~~ 8.6	~~27.9~~ 41.4	~~61.6~~ 91.4	~~89.5~~	~~4.7~~	~~exceeded limits~~
47	6/5 4	? 111	~~0~~ 0	~~44.2~~ 41.4	~~1.9~~ 1.8	46.1	~~53.9~~ 56.8	
47	7/2 31	? 107	~~20.2~~ 20.6	~~1.5~~ 1.0	~~2.9~~ 2.9	3.9	~~75.9~~ 75.9	2
5	6/7 6	? 148	~~47.1~~ 33.1	~~8.7~~ 6.1	~~1.9~~ 1.4	10.6	~~42.3~~ 59.4	
5	6/20 19	? 144	~~8.7~~ 6.3	~~3.8~~ 2.8	~~1.0~~ .7	4.8	~~86.5~~ 90.2	
5	7/2 31	? 139	~~1.9~~ 1.4	~~14.4~~ 10.8	~~6.7~~ 5.0	21.1	~~77.0~~ 82.8	5
5	7/14 43	? 136	~~16.3~~ 12.5	~~4.8~~ 3.7	~~0~~ 0	4.8	~~78.9~~ 83.8	
5	8/10 70	? 127	~~40.4~~ 48.9	~~0~~ 7.4	~~3.8~~ 2.1	3.8	~~55.8~~ 41.6	(19) 20

Depth (Does not depth offset -
(includes W-S and UNK date nests)

	1. %EM by Depth		2. %HBD by Depth	
slope m	+0.42592		+0.46039	
y intercept b	+61.81837		-2.52259	
r=	0.05780	Not significant	+0.11283	not significant
t=	0.70675		+1.40921	
n-2	149		154	

	3. % Partial by Depth	4. % No Dev by Depth (Not possible?)
slope m		
y intercept b		
r=		
t=		
n-2		

paired ↑ regressions

TC

56
56
56
56
48
48
63
63
58
58
74
74
74
70
70

TC	DATE	# EGGS	HBD	PART.	NO	PART + NO	% EMERGENCE	
			Predicted	Predicted	Predicted			
56	6/7 6	? 113	.09 1.0	19.5 21.2	15.0 16.3	37.5	64.6 61.5	4
56	6/20 19	? 109	0 0	3.7 3.8		3.8	96.3 96.2	
56	7/4 33	114	2.6	6.1	8.7	14.8	82.6	
56	7/17 46	99	1.0	16.0	12.0	28.0	71.0	
48	6/7 6	? 101	4.0 3.8	0 0	0 0	0	96.0 96.2	2
48	8/2 62	? 82	14.0 8.7	1.2 1.0	7.3 5.8	6.8	80.5 84.5	
63	6/8 7	? 122	1.6 1.9	4.1 4.8	2.5 2.9	7.7	91.8 90.4	2
63	7/6 35	? 113	13.3 14.4	4.4 4.8	0 0	4.8	82.3 80.8	
58	6/7 6	? 114	0 0	8.8 9.6	16.7 18.3	27.9	74.5 72.1	2
58	7/6 35	? 104	1.9 1.9	29.8 29.8	24.0 24.0	53.8	44.3 44.3	
74	6/13 12	? 114	11.4 12.3	3.3 3.8	1.8 1.9	5.7	83.5 82.0	
74	7/9 38	? 105	3.8 3.8	14.4 14.4	4.8 4.8	19.2	77.0 77.0	3
74	8/6 66	48	25.0	14.6	2.1	16.7	58.6	
70	6/11 10	? 132	9.8 12.5	16.7 21.2	37.1 34.2	68.3	36.4 19.2	2
70	8/2 62	? 114	5.3 5.8	7.9 8.7	34.2 37.5	46.2	48.0 52.6	

(15)

TC	DATE	EGGS (Predicted)	HBD	PART	NO	PART + NO	% EM	
88	6/17 16	? 113	0	3.8	37.5	41.3	58.7	
88	7/23 31	? 108	1.0	22.1	2.9	25.0	74.0	3
88	7/15 44	? 103	10.6	32.7 32.7	1.9 1.9	34.6	54.8 54.8	
39	6/17 16	? 112	3.8	0	1.0	1.0	95.2	
39	7/12 41	? 104	1.9	2.9	1.0 1.0	3.9	94.2 94.2	2
89	6/19 18	? 100	1.0 1.0	1.0	11.5	12.5	86.5	
89	7/3 32	? 95	1.9	7.7	17.3	25.0	73.1	3
89	7/14 43	? 92	5.8	1.9 2.2	8.7	10.6	83.6 81.5	
8	6/28 27	? 109	0	2.9 2.8	6.7 6.4	9.6	90.4 90.8	
8	7/14 43	? 104	2.9 2.9	1.0 1.0	3.8 3.8	4.8	92.4 92.4	2
27	6/6 15	106	.9	3.8	2.8	6.6	92.5	
27	6/30 29	? 110	0	12.5 11.8	11.5 10.9	24.0	76.0 77.3	
27	7/14 43	? 106	17.3 17.0	10.6 10.4	4.8 4.7	15.4	67.3 67.9	4
27	7/29 58	? 101	17.3 17.8	1.0 1.0	6.7 6.9	7.7	75.0 74.3	
54	6/8 7	111	14.4	6.3	2.7	9.0	76.6	
54	6/30 29	? 105	1.0 1.0	2.9 2.9	5.8 5.8	8.7	90.3 90.3	3
54	7/12 41	? 101	21.2 21.8	8.7 8.9	9.6 9.9	18.3	60.5 59.4	

(17)

TC	DATE		EGGS (Predicted)	HBD	PART	NO	Part+ NO	% EM	
46	7/2	31	? 116	~~3.8~~ 3.4	~~5.8~~ 5.2	~~11.5~~ 10.3	17.3	~~78.9~~ 81.1	2
46	7/14	43	? 112	~~10.9~~	~~8.7~~ 8.0	~~58.7~~ 54.5	67.4	~~31.6~~ 36.6	
62	7/2	31	? 106	~~3.8~~ 3.8	~~1.9~~ 1.9	~~0~~ 0	~~1.9~~	~~94.3~~ 94.3	
62	7/15	44	? 102	~~1.9~~ 2.0	~~1.0~~ 1.0	~~2.9~~ 2.9	3.9	~~94.2~~ 94.1	3
62	8/8	68	? 94	~~4.8~~ 5.3	~~3.8~~ 4.3	~~1.9~~ 2.1	~~5.7~~	~~89.5~~ 88.3	
98	7/2	31	? 113	~~0~~ 0	~~13.5~~ 12.4	~~21.2~~ 19.5	34.7	~~65.3~~ 68.1	
98	7/16	45	(80)	17.5	0	0	0	82.5	3
98	8/1	61	? 103	~~10.6~~ 10.6	~~2.9~~ 2.9	~~1.9~~ 1.9	~~4.8~~	~~84.6~~ 84.6	
42	7/2	31	? 101	~~12.5~~ 12.9	~~3.8~~ 4.0	~~4.8~~ 5.0	8.6	~~78.9~~ 78.1	
~~42~~	7/16	45	?	30.8	6.7	113 eggs		0	Exceeds limits ∅ 2
65	7/4	33	? 113	~~0~~ 0	~~7.7~~ 7.1	~~36.6~~ 33.6	~~44.3~~	~~55.7~~ 59.3	
65	7/16	45	? 109	~~8.7~~ 8.3	~~2.9~~ 2.8	~~1.9~~ 1.8	~~4.8~~	~~86.5~~ 87.1	4
65	7/29	58	? 105	~~1.0~~ 1.0	~~1.9~~ 1.9	~~1.9~~ 1.9	~~3.8~~	~~96.1~~ 96.1	
65	8/12	72	(80)	11.3	6.2	2.5	8.7	80.0	
44	6/4	3	112	2.7	0	21.4		75.9	
44	8/3	63	(95)	11.6	6.3	1.1		81	2
33	6/4	3	(101)	0	10.9	14.9		74.2	
33	6/29	28	107	6.5	0	9.3		89.2	2
									~~16~~ 18

TC	DATE	EGGS	HBD	PART	NO	PART NO+	2° EM	
21	6/17 16	(126)	4	25.4	10.3		60.3	
21	6/30 29	114	6.7	21.2	11.5		60.6	2
32-2	6/30 29	108	5.6	3.7	2.8		87.9	
32-2	7/12 41	(117)	52.1	15.4	2.6		29.9	2
16	6/9 8	(107)	8.4	16.8	3.7		71.1	
16	7/2 31	112	4.5	33.9	14.3		47.3	2
87	6/17 16	(105)	0	13.3	9.5		77.2	
87	7/4 33	113	.9	5.3	1.8		92	2
15	6/14 8	(114)	0	9.6	7.9		82.5	
15	7/5 34	118	0	2.5	0		97.5	2
69	6/11 10	(108)	11.1	3.7	.9		84.3	
69	7/8 37	99	8.1	4.0	1.0		86.9	2
41	7/5 34	(94)	2.1	0	2.1		95.8	
41	8/4 64	109	32.1	.9	18.3		48.7	2
80	7/9 38	(98)	1.0	7.1	31.6		60.3	
80	8/5 65	89	9.0	16.8	22.5		51.7	2

(16)

EXACT EGG COUNTS

INFERTILE NESTS NOT USED

– SOIL TYPE –

Partial Development, ~~No~~ Development and % EM

LIGHT			LIGHT-MEDIUM			MEDIUM			Medium-Heavy			HEAVY			LI		
Partial	NO	% EM	Partial	NO	% EM	Partial	NO	% EM	PART	NO	% EM	PART	NO	% EM	Partial		
42-2 15.4	2.6	29.9	13 6.0	1.2	92.8	54 6.3	2.7	76.6	33 10.9	14.9	79.2	83 0	100	0	25 10.6		
18 0	100	0	110 8.0	4.0	86.4	23 11.7	2.9	81.0	16 16.8	3.7	71.1	853 WS 1.1	3.2	80.8	24 2.9		
40 3.2	2.1	90.4	76 5.7	7.9	86.4	15 9.6	7.9	82.5	80 7.1	31.6	60.3	109 1.7	93.2	0	44 0		
108 18.6	9.7	70.8	87 13.3	9.5	77.2	17 12.0	2.8	85.2	105 7.2	2.9	82.7	121 5.2	17.2	75.9	58 9.6		
90 50.0	16.7	33.3	36 5.6	3.7	90.7	41 0	2.1	95.8	95 28.2	9.2	56.3	83 0	100	0	74 3.8		
~~109 2.8~~	~~97.2~~	0	27 3.8	2.8	92.5	43 0	0	97.6	53 7.4	2.5	76.5	121			21 25.0		
65 6.2	2.5	80.0	56 6.1	8.7	82.6	106 13.5	7.6	78.9	17-2 15.5	5.8	69.0				71 5.8		
64 18.4	63.2	18.4	48 0	0	82.5	119 31.6	10.5	53.7	192 6.7	11.4	81.9				44 0		
			84 20	15.2	61.4				845 WS 49.6	5.3	38.3				34 1.0		
18.6± 16.9	16.1± 23.8	53.8± 30.2	34 4.4	1.5	91.2				74 14.6	2.1	58.3				53 0		
N=6	N=6	N=6	21 25.4	10.3	60.3										6 2.9		
			44 6.3	1.1	81.0						66.9 ± 13.7				33 0		
			83 0	100	0										27 12.5		
					82.1± 11.1						N=10				38 22.1		
					N=12										62 1.9		
															5 14.4		
															89 7.7		
															53 29.8		
															9 0		
															75 8.7		
															41 26.9		
															99 15.4		
															33 32.7		
															77 0		
															73 5.8		

EX WITHOUT EGG COUNTS — INFERTILE NESTS NOT USED

-SOIL TYPE-

Partial Development, No Development and % EM

NO	% EM	LIGHT Partial	NO	% EM	LIGHT-MEDIUM Part.	NO	% EM	MEDIUM Part	NO	% EM	MEDIUM-HEAVY Part	NO	% EM	HEAVY Part	NO	% EM
00	0	23 10.6	7.7	76.9	22 1.9	8.7	82.7	2 13.5	1.0	72.0	56 21.2	16.3	61.5	5 8.7	1.9	42.3
3.2	80.8	34 2.9	4.8	92.3	44 3.8	21.2	75.0	89 1.0	11.5	86.5	70 21.2	47.1	19.2	21 21.2	11.5	60.6
93.2	0	44 0	23.1	74.0	47 44.2	1.9	53.9	5 3.8	1.0	86.5	39 0	1.0	95.2	98 13.5	21.2	65.3
7.2	75.9	58 9.6	18.3	72.1	48 0	0	96.2	47 1.0	2.9	75.9	88 3.8	37.5	58.7	42 3.8	4.8	78.9
00	0	74 3.8	1.9	82.0	63 4.8	2.9	90.4	16 36.5	15.4	43.3	54 2.9	5.8	90.3	78 25.0	3.8	68.3
		1 25.0	3.8	67.4	22 1.0	8.7	88.4	101 3.8	10.6	82.7	32-2 3.8	2.9	87.5	63 4.8	0	80.8
		71 5.8	1.9	79.8	34 0	1.0	98.0	2 1.9	0	68.3	102 19.2	3.8	75.1	107 1.9	5.8	33.6
		74 0	1.9	97.1	92 4.8	9.6	85.6	17-1 5.8	42.3	51.9	311 1.0	2.9	96.1	UNM WS 7.7	16.3	27.0
		34 1.0	0	95.2	23 15.4	15.4	68.2	72 2.9	8.7	86.5	15 2.9	0	97.1	86 9.6	26.9	58.7
		56 0	3.8	96.2	40 2.9	3.8	84.6	66 0	9.6	79.8	8 1.0	3.8	92.3	95 4.8	5.8	62.5
		8 2.9	6.7	90.4	46 5.8	11.5	78.9	57 0	2.9	96.1	2 27.9	61.6	4.7	94 WS 12.5	3.8	61.6
		33 0	9.6	83.7	32 6.7	44.2	49.1	39 2.9	1.0	94.2	86 0	25	45.2	2 5.8	2.9	83.6
		27 12.5	11.5	76.0	65 7.7	36.6	55.7	27 10.6	4.8	67.3	UNK 89 6.7	1.9	47.2	73 3.8	1.9	89.5
		88 22.1	2.9	74.0	87 5.8	1.9	91.3	89 1.9	8.7	83.6	UNK 8.7	30.8	54.7	113 0	52.9	47.1
		62 1.9	0	94.3	103 12.5	17.3	66.4	5 4.8	0	78.9	UNK 3.8	1.9	90.5	5 0	3.8	55.8
		5 14.4	6.7	77.0	69 3.8	1.0	87.5	56 15.4	11.5	72.1	UNK 22.1	10.6	67.3	UNK 0	19.2	65.4
		89 7.7	17.3	73.1	74 14.4	4.8	77.0	27 1.0	6.7	75.0				UNK 10.6	28.8	38.5
		58 29.8	24.0	44.3	82 2.9	3.8	89.5	UNK 0	3.8	82.7				UNK 5.8	1.0	87.4
		9 0	1.0	99.0	54 8.7	9.6	60.5	UNK WS 1.0	4.8	35.6				UNK 4.8	2.9	68.3
		46 8.7	58.7	31.6	UNK 52.9	3.8	29.8							UNK 8.7	13.5	77.8
		111 26.9	25.0	34.6	62 1.0	2.9	94.2									
		49 15.4	10.6	67.3	65 2.9	1.9	86.5									
		88 32.7	1.9	54.8	65 1.9	1.9	96.1									
		97 0	1.9	98.1	85 8.7	9.6	80.7									
		73 5.8	3.8	87.5	70 8.7	37.5	48.0									

LIGHT			LIGHT-MEDIUM			MEDIUM			MEDIUM-HEAVY			HEAVY		
PART	NO	% EM	PART	NO	% EM	PART	NO	% EM	PART	NO	% EM	PART	NO	% EM
98 2.9	1.9	84.6	41 1.0	19.2	46.1									
48 1.0	5.8	84.5	80 14.4	19.2	58.7									
UNK 21.2	5.8	71.1	63 3.8	1.9	89.5									
UNK 2.9	1.9	94.2	UNK 1.0	2.9	55.7									
UNK 2.9	3.8	81.8	UNK 8.7	2.9	83.6									
UNK 8.7	7.7	79.8	UNK 0	1.0	98.0									
19.0 ± 9.8														
N=31														
Total of Count+ No Count+WS+UNK-														
10.6±	10.1±	74.0 ±	8.3±	8.7±	77.5±	7.1 ±	6.8 ±	76.7 ±	11.9 ± 8	13.2±	67.4 ±	7.0±	14.9±	61.3 ±
11.5	14.2	21.4	10.6	10.3	16.8	9.2	8.3	15.4	11.6	16.1	23.4	6.4	21.1	21.8
N=37	37	37	43	43	43	27	27	27	26	26	26	23	23	23

```
Data 8, 3, Ø, Ø
Data 1, 2, 3, 7
Data 9, 2, Ø, Ø
Data 1, 2, 4
Data 10, 2, Ø, Ø
Data 1, 2, 5
Data 11, 2, Ø, Ø
Data 1, 2, 6
Data 12, 2, Ø, Ø
Data 1, 2, 7
Data 13, 1, Ø, Ø
Data 1, 4
Data 14, 1, Ø, Ø
Data 1, 5
Data 15, 1, Ø, Ø
Data 1, 6
Data 16, 1, Ø, Ø
Data 1, 7
Data 17, 1, Ø, Ø
Data 1, 8
Data 18, 1, Ø
Data 2, 8
```

Format of MULREG program run 12/13/75.

10 DATA 40, 8, 18

11 DATA ↓ N=90

X		Y	
X_1	Time	Y_4	% EM
X_2	Soil Type	Y_5	% HBD
X_3	Depth	Y_6	% Part
		Y_7	% No Dev
		Y_8	No. Eggs

51 DATA 1, 4, -Ø, Ø
52 DATA 1, 2, 3, 8, 4
DATA 2, 4, Ø, Ø
Data 1, 2, 3, 8, 5
Data 3, 4, Ø, Ø
Data 1, 2, 3, 8, 6
Data 4, 4, Ø, Ø
Data 1, 2, 3, 8, 7
Data 5, 3, Ø, Ø
Data 1, 2, 3, 4
Data 6, 3, Ø, Ø
Data 1, 2, 3, 5
Data 7, 3, Ø, Ø
Data 1, 2, 3, 6

1. 40 for East Island sample
2. 99 East Island (EGG NO unknown)
3. % exact (INF)

EGG COUNT
N = 56
104

(≈ 75 day period) 1974

Between June 2 - August 12 - 40 green turtle nests were sampled on East Island for number of eggs in each clutch. Counts were made during oviposition and nest covering by the female followed in a natural manner. After allowing for sufficient time for incubation and natural emergence of hatchlings each nest was excavated. Counts were made of the number of hatched turtles remaining, the number of remaining eggs showing partial development, and the number of eggs in which no development was apparent. The substrate composition of each nest was accordingly placed in one of five categories (light, light-medium, medium, medium-heavy and heavy). The depth of each nest was also recorded. The percentage of each nest parameter was calculated using the orginal egg count. Percent surface emergence of hatchlings was determined by difference. Data were subjected to an analysis of multiple regression in order to determine what dependencies and relationships existed between the parameters sampled. Is there a dependency of ... on ...

Look at possible relationship of clutch size in 90 exact counts with HBD, PART DEV, NO DEV, PART + NO DEV and EM — NOT feasible due to interjection of 5th independent variable(?)

Look at Type and depth - 143 clutches

after a certain adult size, do SL bigger turtles have bigger-longer flippers?

Multiplicity - Multiple factors
Determine what the most logical ones may be, and then test for significance in a large group of data.

copied from 12/17/75 sheet - Is there a dependency/relationship between number of eggs laid and time into season, CSW ratio, and straight shell of animal? Using these samples of variables, a formula can be developed that will allow prediction of the number of eggs laid by a particular turtle when the time of season, CSW ratio and length are known.

Dependency for days to EM or pock on?

Numbers of clutches laid close to water - # "doomed" nests.

written 5/17/76

when counting eggs, care was taken not to disturb, thereby hopefully prevented "half" clutch deposition.

50 exact count clutches (East Is. FFS) were found to have data for time laid, curved / straight ratio (thickness) and straight length. These 4 variables were subjected to analyses of multiple regression with the objective of arriving at a predictive formula for number of eggs in a clutch when data for time, CSW and SL are known.

Highly significant for CSW only

With egg count as the dependent variable and time, SCW and SL as independent variables, the following results were obtained:

Index		$\bar{x}$	SD	Range
1	Time	34.48	19.3383	1-75
2	CSW	1.281	3.74929E-02	1.19-1.5
3	SL	93.08	2.90978	86.4-97.8
Y	eggs	104.44	23.3659	41-145

Partial regression coefficients -

		b	t-Ratio
	0 Index	-268.704	
Time	by 1.23	-.270564	-1.68515
CSW	by 2.13	93.768	1.12414
SL	by 3.12	2.81861	2.62633*

df = 46

page 46 t-table
df 45 .05 = 2.014
.01 = 2.690

— longer turtles, more eggs —

∴ Trend of fewer eggs with time; Trend of more eggs with larger ratio; significantly ($P < .05$) more eggs with larger straight length. Concerning CSW ratio, a larger ratio would be representative of a more domed width-wise or thicked turtle. ∴ as thickness increases, there is a general trend of larger egg clutches.

The predictive formula for (Y) number of eggs in a clutch, given the variables time, CSW and SL would be

$$Y = a + bx_1 + bx_2 + bx_3 =$$

$$-268.704 + (-.270564)x_1 + 93.768x_2 + 2.81861x_3$$

Actual vs predicted egg count print out may be amenable to figure with x- & y axis.

Question would it "fit" better to a curve?

Answer is on page ? or computer sheet? ← What are relationships, if any, of CSW and SL in a large group of data? Use 143 data sets.

are thicker turtles longer? are longer turtles thicker?

1-75
1.19 - 1.36
86.4 - 97.8
41-145
515
414
633*

detection is a good word

written 5/18/76 ← (WERE FOUND!)

40 exact egg counts sampled on East Is. had data for time, type of soil, depth, SLength

Rationale for each independent variable:

1. time – variation as season progresses due to adequacy of fertilization, etc
2. type of soil – effect of consistency of soil on development – emergence (capabilities)
3. depth – effect of different soil depth environmental conditions on development; distance of hatchling ascent
4. SLength – Bigger turtles may be more fertile – also the question of preceptive nesters (= small nesters?) and fertility of clutch. Possibly leads to speculations about time of insemination (previous or same season?)

Index			$\bar{x}$	Range	S.D.
1	time		33.775	1-72	19.3848
2	Type		2.7	1-5	1.1368
3	Depth	58.9 cm	23.2	19-29	2.34466
4	SLength	5.95	93.335	86.4-97.8	2.65091
5(y)	%HBD		5.8825		9.43167

40 EXACT EGG COUNT

% Hatched but dead

• Partial Regression Coefficients dependent y = HBD%

$\bar{X} = 5.8825$ SD B 9.43167

Index		coefficient	t-ratio
0		13.266	
1 Time	by 1.234	.105366	1.32043
2 Type	by 2.134	−.143651	−.102894
3 depth	by 3.124	.840434	1.19202
4 Slength	by 4.123	−.321984	−.532866

No significance

df = 35 page 46 .05 = 2.030
.01 = 2.724

Index 6 $\bar{X} = 10.83$ S.D. 9.88989

% Partial Developed

Index	B Coefficient	t-ratio
0	−16.7747	
1 time	−4.22579E-02	−.497081
2 Type	−1.2409	−.834301
3 depth	.351831	.468402
4 Slength	.259494	.403102

No significance

df = 35

40 EXACT EGG COUNT

% Hatched but dead

Partial Regression Coefficients dependent Y = HBD%

$\bar{X}$ = 5.8825 SD B 9.43167

Indep		coefficient	t-ratio
0		13.266	
1 Time	by 1.234	.105366	1.32043
2 Type	by 2.134	−.143651	−.102894
3 depth	by 3.124	.840434	1.19202
4 Slength	by 4.123	−.321984	−.532866

No significance

df = 35 Page 46 .05 = 2.030
.01 = 2.724

Index 6 X = 10.83 S.D. 9.88989

% Partial Developed

Index	B Coefficient	t-ratio
0	−16.7747	
1 time	−4.22579E-02	−.497081
2 Type	−1.2409	−.834301
3 depth	.351831	.468402
4 Slength	.259494	.403102

No Significance

df = 35

66 68

write 5/18/;

40 exact egg count

Index 7 $\bar{x}$ = 12.505 SD2

% No Development

Index	B Partial coefficient	t-Ratio
0	9.47277	
1 time	.344547	1.83973
2 type	1.79904	.54905
3 depth	.212138	.12820
4 length	−.196967	−.138889
	df=35	.05= 2.030
		.01= 2.724

No signific

Partial Developed + No Developed

Index 8 $\bar{x}$ = 23.335 SD 23.9563

Index	B coefficient	t-Ratio
0	−7.3125	
1 time	.30229	1.47716
2. Type	.558126	.15588
3. depth	.563951	.31189
4 length	6.26459E-02	4.09264

No signific

Inc

40 EXACT EGG COUNT

SD 22.3674

atio
ocking .05
973
9051
201
389
d
716
884
1897
64E-02

%EM

Index 9 $\bar{X}$ = 70.7825 SD 24.0148

Index	b coefficient	t-Ratio
0	93.9538	
1 time	−.407659	−2.04568*
2 type	−.414691	−.11894
3 Depth	−1.40456	−.797707
4 5 Length	.260382	.172552

significance for time

3/25/73 - %Fertility is just as readily a function (the inverse) of %No Development (which has already been calculated). ∴ can be discussed using this value.

Contributing factors: 1. Hatched but dead
2. No development
separately they do not significantly affect %EM as a function of time however; combined factors do.

Note: what about %fertility = %EM + %HBD + %Partial ?
Not really an important indicator of what's happening in the wild.

multiple factors affecting, influencing, molding, outcome.

Fertility is not really a meaningful term (in that other factors are certainly involved in the ultimate yield of a live hatchling (=productivity)

40 exact egg counts

Is the depth of the nests dependent on the straight length of the turtles? There seems to be little reason to separate out these interacting factors into 40, 103 and 143 since measurement are all homogeneous.
143 analyses will be proper.

3/25/78 fewer turtles emerge from nests laid later in the season due to a combination of: ① trend of more turtles resulting in being hatched but not emerging (hatched but dead) ② trend of more eggs showing no development (both ① and ② increasing with clutches laid later in season.

concerning page 69

40 exact egg counts

Is the SL (size) of the turtle dependent on the time of season?

		$\bar{X}$	SD
1.	time	33.775	19.3848
1.	SLength	93.335	2.65091

no significance

	B coefficient	t-Ratio
0	93.2282	
1	3.16232E-03	.142605

Df = 38

143 data sets would also be only analyses proper for these measurements also.

"small turtles are younger turtles" - Carr
Many interwoven factors to productivity

Using prediction formula developed from known 40 clutches with exact egg counts, the theoretical number of eggs that were present in each of 103 other clutches was determined. Each of these clutches had been marked for time, female ID (including straight carapace length) as well as subsequently for depth and soil type. Excavation and examination of each of nests were made, including numbers of hatched but dead, partially developed, no development (part + no develop), and by difference, number cracking the surface. Using the predicted number of eggs that should have been in each nest (rather than a mean) (egg "shells" impossible to count), the percentage hatched but dead, partially developed, no development (part + no), and emergence were calculated.

highly significant inverse for time
highly significant inverse

103 clutches using prediction formula for number of eggs in each

% HBD

Index		$\bar{x}$	SD
1	time	33.3107	18.
2	Type	2.57282	1.39046
3	depth	23.9709	3.06611
4	SLength	93.6496	4.38704
5	% HBD	7.22913	10.7798

Index		Coefficient	t-Ratio
	0	−21.1613	
1	time	.131111	2.32479*
2	type	2.1802	2.93764**
3	depth	.231514	.699432
4	SLength	.137372	.596046

df = 98

Page 46 100 df = .05 = 1.982

.01 = 2.625

significant variance for time
highly significant variance for Type

103 clutches, predicted egg counts

% Partial Development

Index 6 $\bar{x}$ = 7.52039 SD 9.62772

Index	B coefficient	t-Ratio
0	19.8159	
1 time	−2.35988E-02	−.43458
2 type	−.528227	−.739194
3 depth	−.292828	−.918791
4 SLength	−3.34357E-02	−.150669

no significance

% No Development

Index $\bar{x}$ = 13.432 SD 21.1198

Index	B coefficient	t-Ratio
0	39.8284	
1 time	.140875	1.20924
2 type	.427714	.278917
3 depth	−1.39495	−2.03942*
4 SLength	1.33209E-02	2.79694E-02

df = 98

from book for 100 Df = 1.982 = .05
2.625 = .01

barely significant observation with depth

significant observation with depth

significant observation with time. significant observation with depth

Many "No Development" may actually be Partially developed with very early cessation (see Ross)?

772

% Partial + No Development

Index $\bar{x}$ = 20.9155 SD 22.5143

	B coefficient	t-Ratio
0	63.3681	
1 time	.121807	.984129
2 type	−.160375	−9.84365E-02
3 depth	−1.74493	−2.40118*
4 Slength	−4.56095E-02	−9.01371E-02

df = 98

significance for depth – decreasing with depth

% Emergence

Index $\bar{x}$ = 71.8223 SD = 22.8374

	B coefficient	t-Ratio
0	61.3728	
1 time	−.24826	−2.02465*
2 type	−2.07936	−1.2883
3 depth	1.45899	2.02658*
4 Slength	−.116415	−.232232

df = 98

significant – decreasing with time. significant – increasing with depth

Summary

40 clutches - EXAct COUNT

INDependent Variable	DEPENDENT VARIABLES					
	HBD	PART DEV	NO DEV	PART + NO	% EM	HAT (EM+H
time	1.32043	-.497081	1.83973	1.47716	-2.04568*	1.65
type	-.102894	-.834301	.549051	.15584	-.11894	-.322
depth	1.19202	.468402	.128201	.311897	-.797707	-.219
straightness	-.532866	.403102	-.138889	4.042E-02	.172552	-6.15 E-0

df 35 .05=2.030 .01=2.724 df=35

weather, soil conditions, manner of fertilization

103 clutches - PREDICTED

	HBD	PART DEV	NO DEV	PART + NO	% EM
time	2.32479*				-2.02465*
type	2.93764**				
depth			-2.03142*	-2.40118*	2.02658*
S length					

"Within certain limits," a deeper nest may provide a more (optimum) stable environment for development, thereby resulting in increased productivity.

Tim
Typ
Dept
SL
% HB
% PART
% NO
Part + N
% EM

No sig. diff.

Barely significant

Comparison of means and SD.

	40 clutches		103 clutches	
	$\bar{X}$	SD	$\bar{X}$	SD
Time	33.775	19.3848	33.3107	18.
Type	2.7	1.1368	2.57282	1.39046
Depth	23.2	2.34466	23.9709	3.06611
SL	93.335	2.65091	93.6446	4.3824
% HBD	5.8825	9.43167	7.22913	10.7798
% PARTDEV	10.83	9.88989	7.52039	9.62772
% NODEV	12.505	22.3674	13.432	21.1198
% PART + NO	23.335	23.9563	20.9155	22.5193
% EM	70.7825	24.0148	71.8223	22.8374

HAT (EM+HBD)
1.655
-.322135
-.219349
-6.15383 E-02

timum)
hereby

143 clutches

INDEPENDENT VARIABLES

	%Hat = %EM + HBD	HBD	PART	NO	PART NO	EM
Time	-1.68716	2.67474**	-.680023	2.0209*	1.6371A	-2.78955**
Type	-5.81384E-03	2.58629*	-1.01484	.391262	-9.86601E-02	-1.13845
Depth	2.09334*	1.22629	-.745962	-1.81044	-2.08449*	1.49369
Slength	-3.94499E-02	.502037	.031539	.166504	-2.45699E-02	-.304851

df = 138

df 120 .05 = 1.980 .01 = 2.617
∞ .05 = 1.960 .01 = 2.5758

Slength dependent on time(1)?
by 1 t = .602295 NO

Depth dependent on

by 1.24 Time -7.63894E-02
by 2.14 Type t = -2.06709*
by 4.12 Slength 1.13069

df = 139

Comparison of $\bar{X}$, S.D.

	40 Clutches	143 clutches
EM		
Time	33.775 ± 19.3848	33.4476 ± 18.3333
~RANGE~	1 – 72	1 – 72
Type	2.7 ± 1.1368	2.60839 ± 1.32173
~RANGE~	1 – 5	1 – 5
Depth	23.2 ± 2.34466 (58.9cm 6.0 cm)	23.7552 ± 2.89539 (60.4 7.4)
~RANGE~	19 – 29 (48.3 – 73.6 cm)	17 – 32 (43.2 – 81.3)
Length	93.335 ± 2.65091	93.558 ± 3.97182
~RANGE~	86.4 – 97.8	85.1 – 106
HBD	5.8825 ± 9.43167	6.85245 ± 10.4053
~RANGE~	0 – 52.1	0 – 52.1
PART	10.83 ± 9.88989	8.44545 ± 9.78139
~RANGE~	0 – 50	0 – 53.9
NO	12.505 ± 22.3674	13.1727 ± 21.4005
~RANGE~	0 – 100	0 – 100
PART + NO	23.335 ± 23.9563	21.5573 ± 22.8922
RANGE	0 – 100	0 – 100
EM	70.7825 ± 24.0148	71.5315 ± 23.092
RANGE	0 – 97.6	0 – 99
HAT (EM+HBD)	76.3325 ± 24.1815	
Range		

NOT Actual occurrence Because of project BREAKS

ENCOUNTERS 3/25/78 but not all entered into calculations Taken from pages 45-55

- 88 turtles laid (143) clutches

repeaters are as follows:

Actually IN calculations

	# Turtles	# Nests
5 clutches	- 1	5
4 "	- 4	20
3 "	- 9	27
2 "	- 21	42
	53 one Timers	96 Nests

143 - 96 = 47 Nests ork times

#1 assumption - most of nesters are present at beginning of season.

Baseline definitions as per Hirth

Old notes -

1. Method of marking nest site (see Moorhouse)
2. # per night vs laying per night
3. Digging up other nests
4. Nesting season (months)
5. Time of season (decrease as per Carr)
6. # repeatings
7. Total number hatchlings in water
8. Size of females
9. abnormal shields
10. Size of eggs
11. Turtles other than sea turtles
12. Size of hatchlings

Time
- Rang
Type
- Rang
Depth
- Rang
No. Do
- Rang
2 HB
- Rang
2 EM
- Rang

38 clutches (13 from 40 + 25 from 103)

INDEPENDENT VARIABLES

	NO. DAYS TO EM
Time	-1.00429
Type	-1.00869
Depth	-.26943

143
-96
47 nests
ork times

df = 34

35df .05 = 2.030 .01 = 2.724

Means, S.D., Range

Time 36.0526 ± 26.056
- Range 1-72

Type 2.73684 ± 1.36924
- Range 1-5

Depth 23.1053 ± 2.68923 (58.7cm / 6.8cm / 48.3cm / 18.7cm)
- Range 19-31

NO. Days 64.5 ± 6.48804
- Range 54-80

%HBD 10.3079 ± 9.3364
- Range 0-33.1

%EM 71.6447 ± 16.005
- Range 28.5-96.0

38 clutches (13 from 40 + 25 from 103)

INDEPENDENT VARIABLES	% HAT (EM+HBD)	%HBD	%EM
Time		1.59451	-1.40183
Type		1.56206	-.985898
Depth		1.25628	-.751529
NO. Days TO EM		-1.74721	-.766191

df = 33

35df .05 = 2.030 .01 = 2.724
30df .10 = 1.697

Significance at 10% level - tendency for clutches that incubate longer (take more days for emergence/hatch to occur) to end up having fewer HBD. This may be due to longer period of time available to "slow" eggs or hatchling to be prepared to emerge, therefore allowing greater numbers to enter into upward digging complement(s).

calculation
6/1/72 T202
C40 x39

N=99

Diameter - $\bar{X}$ = 4.4373 ±.091 cm
Range 4.3 - 4.6

Weight - $\bar{X}$ = 49.6161 ±1.9366 g
Range 45.2 - 53.6

Captive reared
Hatchlings - Length - 51.72 ± 1.28 Range 48.1 - 54.2
width - 41.17 ± 1.16 38 - 43.9
Weight - 31.19 ± 3.01 25 - 35
N=170

field measurement
length - 53.10 ± 1.60 49-59

N=536

Combined lengths - 52.80 ± 2.33 48.1-59
N = 556

consider/mention tidal aspects.

Weather Data - Air temp range
Sea Water May 30 → Oct. 8, 74
FEB 14, 75 → Present
+ 1943 - 1962 ARB Air and precipation

40 exact count clutches

Independent variables	%EM	%HA+(EM+HBD)
Time	−2.14796*	−1.79453
Type	−4.20759E-02	−.241339
Depth	−46797	7.11478E−02
S Length	.404761	.195638
No. Eggs	−.701865	−.722276

df35 = .05=2.030 .01=2.724 df = 34

Independent variables	%HA+(EM+HBD)
Time	−1.85434
S Length	.193695
No. Eggs	−.77301
	df = 36

Paired Regression

No. Eggs	−.113567	df=38

Data on page 84 analyzed to help answer question raised by Fendrickson (1958) page 510 concerning metabolic heating and size of egg clutch – does the number of eggs in a clutch affect the percent of eggs that hatch?

Is the %HAT dependent on the number of eggs in clutch?

"abnormally small clutches of eggs could be expected to lose their metabolic heat to the surrounding sand ... etc."

N Dependent Variables

	NO. DAYS
Time	.186853
Type	-5.09659E-02
Depth	6.60238E-02
NO. EGGS	.451685

df = 8

↑ Is the number of days to EM ↓ dependent on the NO. EGGS in clutch?

Paired Regression

	NO. DAYS
NO. EGGS	.620427

df = 11

N = 13 instead of 38 because NO. eggs in clutch were originally predicted using the variable time

df = 38

See page 46 Book 2

Soil Excavated by Nesting Turtles

	TC NO.	SL	DATE	AREA	L x W x T		
1	70	101	8/2/74	5	15 4.6	9 2.7	
2	120	92.7	8/6	5	15½ 4.7	5½ 1.7	
3	57	94.0	8/6	5	12 3.7	6½ 2.0	
4	111	95.3	8/7	6	16½ 5.0	6 1.8	
(5)	121	none	8/8	6	11 3.4	5½ 1.7	
6	74	92.7	8/6	6	13 4.0	6½ 2.0	
(7)	near 82		8/7		19 5.8	7½ 2.3	
8	17-2	91.2			14½ 4.4	5½ 1.7	
9	89	90.8	8/9	17	10½ 3.2	6 1.8	
10	5	106	8/10	6	12 3.7	7 2.2	
11	84	94.6	8/11	6	14½ 4.4	6 1.8	
12	32	88.3	8/10	4	12 3.7	6 1.8	
13	85	89.5	8/12	6	8½ 2.3	6½ 2.0	
14	17	92.7	8/12	1	12½ 3.8	7 2.1	
15	165	95.3	8/11	6	10 3.0	6½ 2.0	
16	56	92.1	8/12	1	11 3.4	8½ 2.6	
17	65	97.2	8/12	6	10½ 3.2	5½ 1.7	.28
18	73	90.2	8/13	5	9½ 2.9	5-10 1.8	
19	109	97.8	8/13	SP	14 4.3	6½ 2.0	.36
20	88	94	8/13	17	10 3.0	6½ 2.0	
21	95	95.9	8/13	6	13 4.0	6-3 1.9	.43

$\bar{X} = 3.75 \pm .71$ $\bar{X} = 1.98 \pm .28$

Range 2.3-5.0 1.7-2.7

8½-16½ 5½-9

N = 19

r for length of EX and length turtle
.300635

df = 17

t for b coeffient = 1.29963

r for width of EX and length turtle
.401669

df = 17

.05 = .456

t for b coffient = 1.80826

.05 = 2.110

.10 = 1.740

1974- NUMBER OF TURTLES PER NIGHT

?.4/83

Night PM to AM

of Those -

ASSIGN SEASON NO.

DATE (PM - AM)	NO. NESTING TURTLES OBSERVED	NEW Nesting	NEW Born	NO. SUCCESSFUL	ISLAND
6/1 - 6/2	3	3	17	2	
6/2 - 6/3	6	6	6	4	
6/3 - 6/4	6	5	7	1	
6/4 - 6/5	10	6	7	8	
6/5 - 6/6	6	3	2	1	
6/6 - 6/7	9	5	3	5	
6/7 - 6/8	3	1	1	1	
6/8 - 6/9	8	8	5	4	
6/9 - 6/10	6	4	3	1	
6/10 - 6/11	6	6	2	3	
6/11 - 6/12	9	5	6	2	
6/12 - 6/13	9	5	2	5	
6/13 - 6/14	9	4	4	3	
6/14 - 6/15	8	2	2	4	
6/15 - 6/16	8	1	1	2	
6/16 - 6/17	11	2	2	8	
6/17 - 6/18	5	1	1	3	
6/18 - 6/19	6	1	1	3	
6/19 - 6/20	7	1		4	
6/27 - 6/28	6	0	0	2	
6/28 - 6/29	9	2	2	5	
6/29 - 6/30	9	2	2	2	
6/30 - 7/1	12	4	4	8	
7/1 - 7/2	9	2	2	4	
7/2 - 7/3	20	3	3	12	
7/3 - 7/4	10	1	1	6	

PM DATE

7/4 - 7/
7/5 - 7/
7/6 - 7/
7/7 - 7/
7/8 - 7/9
7/9 - 7/
7/10 - 7
7/11 - 7
7/12 - 7
7/13 - 7/
7/14 - 7
7/15 - 7
7/16 - 7
7/17 - 7
7/26 - 7/
7/27 - 7
7/28 - 7/
7/29 - 7/
7/30 - 7/
7/31 - 8
8/1 - 8/
8/2 - 8
8/3 - 8
8/4 - 8/
8/5 - 8
8/6 - 8
8/7 - 8

ISLAND

DATE AM	NO. NESTING TURTLES		Nesting BORN		OF THOSE— NO. SUCCESSFUL		IS.
7/4 - 7/5	𝍸 𝍸 ||||	9	0	0	𝍸	5	
7/5 - 7/6	𝍸 |	6	|| 2	|| 2	||	2	
7/6 - 7/7	𝍸 𝍸 ||||	9	0	0	𝍸 ||	7	
7/7 - 7/8	𝍸 ||	7	| |	| |	||||	4	
7/8 - 7/9	𝍸 𝍸 𝍸	10	|| 2	|| 2	𝍸	5	
7/9 - 7/10	𝍸 𝍸 |||	8	| |	| |	||||	4	
7/10 - 7/11	𝍸 𝍸 ||||	9	0	0	𝍸 |	6	
7/11 - 7/12	𝍸 𝍸 |||	8	|| 2	|| 2	𝍸 𝍸	6	
7/12 - 7/13	𝍸 𝍸 |||	8	0	0	||	2	
7/13 - 7/14	𝍸 𝍸 𝍸 ||	12	0	0	𝍸 𝍸 |||	8	
7/14 - 7/15	𝍸 𝍸 𝍸 |	11	|| 2	|| 2	𝍸 𝍸 ||	7	
7/15 - 7/16	𝍸 𝍸 ||||	9	0	0	𝍸 𝍸 ||	7	
7/16 - 7/17	||||	4	0	0	||	2	
7/17 - 7/18	𝍸	5	0	0	||	2	
7/26 - 7/27							
7/27 - 7/28	|	1	0	0			
7/28 - 7/29	𝍸 |	6	| |	| |	|||	3	
7/29 - 7/30	𝍸 𝍸 𝍸	10	| |	| |	𝍸 𝍸 ||	7	
7/30 - 7/31	𝍸 𝍸 ||	7	0	0	|||	3	
7/31 - 8/1	𝍸 𝍸 |||	8	|| 2	|| 2	𝍸	5	
8/1 - 8/2	𝍸 𝍸	5	0	0	𝍸	5	
8/2 - 8/3	|||	3	| |	| |	|||	3	
8/3 - 8/4	|||	3	| |	| |	||	2	
8/4 - 8/5	||||	4	| |	|| |	||	2	
8/5 - 8/6	||	2	0	0	|	1	
8/6 - 8/7	𝍸 𝍸 ||	7	|| 2	|| 2	𝍸 𝍸 |	6	
8/7 - 8/8	𝍸 𝍸 |||	8	0	0	||	2	

continued P92

93 Female body Measurements, 1974 Season
(Individuals)

Complete sets of data for all 93.

	Mean, S.D.	range
1. Curved length –	97.94 ± 3.83	90.2 – 113.0
2. Curved width –	91.88 ± 4.59	82.6 – 105.
3. Straight length –	93.12 ± 3.54	85.1 – 106
4. Straight width –	72.04 ± 3.74	57.8 – 81.
5. Curved-Straight length ratio –	1.052 ± 1.35932E-02	1.03 – 1.08
6. Curved-straight width ratio –	1.27731 ± 4.88037E-02	1.17 – 1.44
7. SS ratio –	1.29344 ± 5.44603E-02	1.17 – 1.56

transposed 3/28/78 from computer sheet

93 Male Body Measurements – mostly FWS data

complete sets of data for all 93

	Mean, S.D.	range
1. Curved length –	90.95 ± 4.62	81.9 – 107.2
2. Curved width –	85.11 ± 4.56	76.2 – 99.6
3. Straight length –	86.18 ± 4.12	76.5 – 96.8
4. straight width –	67.24 ± 3.03	60.7 – 74.3
5. Curved-straight length ratio –	1.057 ± 1.705-49E-02	1.01 – 1.11
6. Curved-straight width ratio –	1.26613 ± 4.50226 E-2	1.19 – 1.42
7. SS ratio –	1.25802 ± 0.17526	1.16 – 1.37

↑ 1 ".126" entry error – see computer sheet

1974 NO. TURTLES PER NIGHT

DATE	NO. NESTING TURTLES		NO. EGGS	NO. BORN	OF THOSE NO. SUCCESSFUL	
8/8-8/9	III	3	0	0	III	3
8/9-8/10	I	1	I	I	I	1
8/10-8/11	IIII	4	0	0	II	2
8/11-8/12	𝍸 IIII	9	I	I	𝍸 II	7
8/12-8/13	𝍸 II	7	0	0	𝍸	5
8/13-8/14	II	2	0	0		
8/14-8/15	IIII	4	0	0	II	2
			104	106		229

IS. 1/8/

D. 1/8/77 notes

Linear Regression - independent x and dependent y (y function of x)
objectives may be to ① learn if y does depend on x ② Predict y from x.

b - sample regression coefficient is slope or change in "y per unit change in x"