FLORIDA 1995 BALAZS
KANEOHE BAY SAT TAGS
P. 41-

SCANNED

SAT TAG 24179
PUWALUU RELEASED
INTO KANEOHE BAY

2 OF 2

FLORIDA 1995+
BALAZS

ST-10 FARY
1996
+ 24179

60

1996

Date: Thu, 22 Aug 1996 13:48:47 -0400
From: BASFMRI@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Re: Forwarded mail....

I just wrote her too after getting your other e-mail on the 9092. I'm pretty certain that when I asked for the program number while you were away and you relayed through Shawn that it was 1092. Anyway, I guess they can clear it up pretty easily. I wonder if that's why I'm not getting the data?

Tag 25688 went out fine this AM. Another scratchy back turtle. Ugh. A recap originally flipper tagged in 1994. Everything went smoothly except the elastomer didnt' set up fast enough and was too runny. I guess it was temp/humidty. Tomorrow I'll experiment first.

BAS

Date: Thu, 22 Aug 1996 00:02:54 -0400
From: BASFMRI@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Re: Balazs again.

If you okay, I will forward your e-mail to Erik Martin. He will be able to brief you on all that was done at the St. Lucie Nuclear Plant (they have been having record years - like catching 1000 turtles a year or so!).

Re the salt water switch - yes, mine are all 12 hours.

Just back from Florida Bay - bad weather but got some good stuff though disturbing. We re-captured (intentionally) one of our adult males that we tagged 3 months ago (radio/sonic/satellite). Well, the double tygon tubing was gone completely, just ragged base remaining around antenna. The black plastic coating of the antenna was abraded through about 1.5cm above the base - exposing wires on the leading edge. The resin/cloth was abraded through to housing on the leading edge both corners. Not much fouling, a few barnacles and of course algae, but the salt water switch terminals were free and shiny. I had not had a valid position from this animal for 13 days prior. We wrapped the antenna in electricians tape to cover the exposed wires and re-resined the leading edge of the unit to re-seal it (?). So, we'll see what happens now. More evidence of the fragility of these units in backpack. I have another male that is no longer sending locations, only dive data. He was in murky water and we couldn't capture him - will try again in Sept. CANCEL that. I just looked at my ARGOS data while I was away and I got an LC 2 on the turtle that had not sent a location in many weeks. Go figure.

It's midnight, I gotta get up at 3:30 AM to head up to Melbourne to put the second sat tag out there. I need a day job or a night job - but not both....

P.S. I have gotten NO ARGOS data from your program 1092. I'm sending them a message tonight. I have a tag out now and no info. Ugh.

BAS

Date: Fri, 23 Aug 1996 17:30:06 -0400
From: BASFMRI@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Re: ID codes and program numbers (fwd)

I guess the 1092 was left over from when they were? running under that program in 1994? Anyway, after checking the "back data" that Debbie sent, I am still missing data between 14 August and 22 August - so I have no record of 25689 from when we put the tag on (8/14) until the location I mentioned to you earlier today. I've e-mailed Debbie and asked her to check on this for me and send if she has it. You know, I've been wondering if Lisa and Debbie are one person or two? Or maybe just one person pretending to be two. What do you think?

Date: Fri, 23 Aug 1996 14:16:23 -0400
From: BASFMRI@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: ADS

Had a note from Debbie today and I think they have fixed the problem at least for a moment. I got the same files you forwarded. I'll let you know if I don't get daily ADS, so no need to forward unless you hear from me - how's that sound? I need to double check everything she sent me to make sure I have data from 25689 which went out on 14 August. 96

Got the third transmitter out today - all went well. She was a recap from 1994. Today we had the CEO of Snapper and his entourage, the Florida Commissioner of Education and his smaller entourage, Channel 2 news and some newspaper (I forget which). It was quite a show. Oh, and did I mention the turtle character "SAM" for Snapper American Made? Some very valuable photos of the turtle, Doc, and myself. I'l send you one, it will make your day. Actually they were very nice folks and after all, they did buy two transmitters for us. I think they were impressed with the whole thing - especially the turtle.

One more to go tomorrow. Look at that position for 25689 that just came in - if it's good - she's gone! And, look at that position for 22129 at 1127 GMT on 23 August 96 that's me holding the transmitter in my hand on the beach this morning, can't get more real time than that!!!!!!

Date: Fri, 23 Aug 1996 20:29:32 GMT
From: Lisa and Debbie <USEROFFICE@argosinc.com>
To: gbalazs@honlab.nmfs.hawaii.edu
Cc: USEROFFICE@argos5.argosinc.com
Subject: RE: ID codes and program numbers

Dear George,

The platforms I have listed to sent to Barbara Schroeder are as follows: 22127, 22128, 22129, 25688, 25689, 25690 and 25691. If this is incorrect, please let me know.

Best regards,
Debbie

62

Date: Sun, 1 Sep 1996 10:22:15 -0400
From: BASFMRI@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Re: Color map you sent me (25667)

Glad you liked the map. Andrea Mosier is our GIS person who I work with on this. She does all the cool stuff! This is similar to the map up on CCC's home page, but we haven't put any points up yet. They laminate the maps if folks are taking them places or using them for things other than quick looks, any drops of water that get on the paper really mess it up. I know, I spilled iced tea on one yesterday.

Haven't been to the site the male is at, it's a little ways offshore, we may fly that area week after next during Florida Bay trip. I'll have to go back and check my points, I think I had a "1" there, but not sure. Will let you know later...

Nope, Tom is staying up north this weekend - we both have tons to do before I move in three (UGH) weeks. I am in denial.

Reburn 6/96

Date: Sat, 14 Sep 1996 07:05:13 -0400
From: BASFMRI@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Re: Reburnish ST3

Did they see your unit before quoting that price or, as I recall, you had some correspondence with them in advance? I have no money other than Florida Bay money to tap into. Perhaps I will do that (get a requisition going) before I leave. Not sure and need to think about it. I was mostly hoping they could see both together to have greater impact and think more about antenna maybe. I would really like to take a trip to Telonics in person with unit and sit down and talk to them, wish we could both do that and have more impact.

Just back from Florida Bay last night. Had pretty good trip - most of our time now is spent finding telemetered turtles. One of our radio/sonic tagged males I was planning on putting sat tag out on this trip (to make our fourth individual male tagged) has gone missing. The three with sat tags/radio/sonic are all still around. Recaptured one of these who was out for three months. Antenna fine, resin worn done to housing on leading corners. Some barnacles, lots of algae, no fouling of saltwater switch terminal heads. Resin edges "sloughing" on carapace but only where resin extended beyond cloth/resin. Beef up with filler

Had a short trip amounting to only 2 full days. Caught a few new turtles and one recap of immature CC from June 1995 - it was virtually in the exact same spot we first caught it (less than 100 meters away). See, we don't need no lousy telemetry!

B.

[28] From: Barbara Schroeder at ~NMFS-5 3/13/97 8:20AM (1151 bytes: 1 ln)
To: George Balazs at ~NMFS-HONO
Subject: Re: Florida Bay
---------- Message Contents ----------
All correct. No others active and haven't heard from 25689 in awhile.

---------- Reply Separator ----------
Subject: Florida Bay
Author: George Balazs at ~NMFS-HONO
Date: 3/12/97 12:55 PM

Barbara- Just to keep track roughly of what's going on, please tell me the following. If I've already asked you, and you've ver already told me, please forgive. I need it again to write down this time in my "Florida" Book.

25689 and 25691 (the only two you have running under my program right now, correct?)

691 is a male loggerhead deployed 2/10/97 in Florida Bay. Correct?

689 8/14/96 on a nesting green at Melbourne. Correct?

Was there another loggerhead? Thanks Geo.

Date: 07 Jul 1997 12:34:38 -0400
From: Barbara Schroeder <Barbara.Schroeder@noaa.gov>
To: Return requested <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Antenna Problem (fwd)

Caught one of my satellite male loggerheads (deployed 10 February 1997) last week, just happened upon him, he was not transmitting location data anymore. Tag looks just like the one I sent you and all of yours. Antenna ground down to the unit. Out only 5 months and I bet the antenna has been bad since he stopped transmitting.

Me

Author: Barbara Schroeder at ~NMFS-5
Date: 7/7/97 2:00 PM
Priority: Normal
TO: George Balazs at ~NMFS-HONO
Subject: Florida Bay

We had a great trip. Caught 25 turtles, 22 loggerheads (2 project recaps), 2 ridleys, and one green. Green had fp as did 3 of the 22 loggerheads. I collected samples from 2 of the loggerheads for Jim Casey and, as soon as I get the permit worked out, I'll ship them to him.

- Michelle
at Telonics says my units will most likely ship overnight on the 20th. However, I am not confident that they will. I have only one unit which I will deploy on the morning of the 21st. Then if my new ones come on the 21st during the day I'll be set. If they don't come, I'm sunk. I asked about the duty cycle and it was programmed two weeks ago, so no chance to change. Would you be willing to send me 1-2 of yours in case mine are delayed another day (I'd only need one then). I will talk with Michelle again on Monday to see where they are, she called today and said they are still on track. Mine are all 24/24. I might be able to place another order for 3/3 replacements with leftover funds to reimburse you but they wouldn't be ready right away.

If you were to fedex, it would be direct to Doc's (I'll send you the address and you'd have to do it no later than Monday (and maybe today?).

let me know your thoughts....

1997 Redware

Date: Mon, 8 Sep 1997 11:04:22 -0400 (EDT)
From: BASFMRI@aol.com
To: AEM782@aol.com, mosier_a@harpo.dep.state.fl.us,
gbalazs@honlab.nmfs.hawaii.edu, dab15782@pegasus.cc.ucf.edu,
twhq08a@prodigy.com, therese.conant@noaa.gov
Subject: Where the Girls Are

WOW! Here is the latest update, I wasn't able to access my e-mail from Mexico hence the delay.

Flo-Jo (25675): She left Melbourne sometime after 0323hrs on 3 September, by 4 September at 1433hrs she was off Hutchinson Island, between Ft. Pierce and Stuart. Continuing rapid travel southward, by 9/5 she is off Jupiter and on 9/6 just north of Miami. My guess is she nested the night of 2 or 3 September. Dean, any nests on those days? (most current position 25 49.6N / 80 06.2W)

Endora (06674): She has not moved significantly since she "arrived" off the north end of Elliott Key. As of 9/7, she's transmitted from that area since 8/28! (most current position 25 31.7N / 80 12.2W)

Elliott Key

Marjorie (06675): She continued moving SW along the Florida Keys, on 9/3 she was south of Sombrero Key, on 9/4 just south of Boca Chica Key and then on 9/5 south of Boca Grande Key where she has remained in that general vicinity through 9/7. (most current position 24 28.2N / 82 00.1W)

Boca Grande Key

Jacques-line (06676): Last position received was on 9/4 when she was still in the Melbourne area. Maybe she hasn't nested for her final time yet. Keep your fingers crossed that we don't lose her.

Rhonda (06677): She is in the Keys, and was moving southwesterly, on 9/4 she was south of Marathon, 9/5 south of Bahia Honda Key, 9/6 south of Big Pine Key and, as of 9/7, is still in this general area of Bahia Honda and Big Pine Keys. (most current position 24 37.1N / 81 06.5W)

Bahia Honda & Big Pine

I'm getting a lot of positions which is great. Will keep you all posted, KEEP YOUR FINGERS CROSSED. Andrea - I wasn't able to get dbase working on my laptop so I'll work on getting you those files early this week for the maps. Blair - I have the radio in my hand so everything I say is the truth. All - only 10,000 olive ridleys nested at La Escobilla when we visited, unfortunately we were only allowed to visit in the early evening, before the arribada was really underway so I only got to see about 100 olive ridleys in 100m of beach. This season, just approaching the height, they already have about 250,000 nests on 7km of beach. I told them that in Florida, we mark all our nests and follow all of them through to emergence, I then recommended that they do the same.....I think they are working on it.

Barbara

Re

Date: Fri, 19 Sep 1997 05:33:29 -0400 (EDT)
From: BASFMRI@aol.com
To: dab15782@pegasus.cc.ucf.edu, twhq08a@prodigy.com,
therese.conant@noaa.gov, gbalazs@honlab.nmfs.hawaii.edu
Subject: Greens

Not much new since the last update. I'll post again over the weekend. Dean I dont' have Doc's address on my machine at home, can you make sure he gets this one:

Flo-Jo: Still in same area, last position was 9/16.

Endora: Still in same area, last position was 9/17.

Marjorie: Still in same area, last position was on 9/16.

Jacques-line: Still up near Melbourne Beach, last position was on 9/15.

Rhonda: Still in same area, last position was on 9/17.

66

Date: 9/12/97
Sender: Barbara Schroeder
To: dab15782@pegasus.cc.ucf.edu, lehrhart@pegasus.cc.ucf.edu, sandy_macpherson@mail.fws.gov, spinnaker@prodigy.net, aem782@aol.com, Therese Conant, George Balazs
Priority: Normal
Receipt requested
Subject: Update on The Girls

Okay, here's the latest update and I'll save the WOW information for the bottom but DON'T PEEK:

Flo-Jo #25675 (and 25688 from 1995): She has just arrived in the vicinity of where she "took up residence" until we lost her signal on 27 September 1995. Bet she stays there. (24 43.3N / 80 52.8W)

Endora (Sandy that's your turtle) #06674: Well, she's going nowhere fast. Has been just off the northern tip of Elliott Key since she arrived there on 28 August. Still transmitting well. (25 30.5N / 80 08.2W)

Marjorie #06675: She also is not moving much now. She's still in the general area south of Boca Grande Key (between Key West and the Marquesas, on the south side). She's been there since about 5 September (24 26.9N / 82 02.2W)

Jacques-line #06676: She left the Melbourne area sometime after 4 September and prior to 9 September. I suspect closer to 9 September. Last position put her near Ft. Pierce (27 35.9N / 80 14.9W)

Rhonda #06677: She is in the general area south of Molasses Key (just southwest of Marathon). She's been there for a few days. (24 34.8N / 81 10.5W)

Okay SO NOW:

Yesterday I spoke with a gentleman who found Samantha's tag (#25689). We tagged her in 1996, she left ACNWR on 8/14 (right after we tagged her) and took 4 days to "arrive" off the northern end of Elliott Key, where she remained at least until late September when we lost her signal. The tag was found 31 August 1997 laying on the bottom, in 10-15' of water in Hawk's Channel off the northern end of Elliott Key, just outside the entrance to a small "cave" formed at a thick built up patch reef/limestone area near the edge of where the patch reef meets the seagrass bed. The diver was lobstering at the time and figured the turtle knocked the tag off getting "into" the cave. He saw a turtle, but not her - it was an immature green by his description. I quizzed him about turtles but he seemed, as usual, to be familiar with the big loggerheads and small turtles, but not big greens. He is going to drop the tag off with Wendy Teas and she will return it to me. Pretty neat huh? I have the GPS coordinates for the location (general area) so when we make our trip to find these guys, we'll know where to go.

GO TO Page 70

22127 Date : 15.08.96 21:38:08 LC : 3 IQ : 66
Lat1 : 33.384N Lon1 : 111.815W
151 42236 20622 01
00 00

22127 Date : 16.08.96 01:39:24 LC : 2 IQ : 68
Lat1 : 33.389N Lon1 : 111.799W
162 42236 00 00
00 00

22127 Date : 16.08.96 13:57:30 LC : 3 IQ : 68
Lat1 : 33.384N Lon1 : 111.809W
153 42236 00 1034
00 04

22127 Date : 24.08.96 11:03:52 LC : 3 IQ : 66
Lat1 : 27.908N Lon1 : 80.474W
152 00 00 00
00 00

22127 Date : 24.08.96 12:42:08 LC : 1 IQ : 56
Lat1 : 27.914N Lon1 : 80.478W
177 00 00 18578
01 36

22127 Date : 25.08.96 00:01:55 LC : B IQ : 00
Lat1 : 27.897N Lon1 : 80.875W
165 975 263 59
00 00

22127 Date : 25.08.96 06:44:22 LC : B IQ : 0
Lat1 : 27.947N Lon1 : 80.524W
168 161 263 59
00 01

22127 Date : 26.08.96 23:12:50 LC : B IQ : 00
Lat1 : 27.894N Lon1 : 80.553W
165 1062 420 50
00 00

22127 Date : 30.08.96 20:30:58 LC : B IQ : 00
Lat1 : 27.850N Lon1 : 80.404W
169 140 249 84
00 00

22127 Date : 31.08.96 09:01:45 LC : B IQ : 00
Lat1 : 27.975N Lon1 : 80.450W
168 765 166 127
02 24

22127 Date : 04.09.96 08:19:20 LC : 1 IQ : 50
Lat1 : 27.979N Lon1 : 80.514W
170 116 395 8759
01 04

22127 Date : 04.09.96 08:19:20 LC : 1 IQ : 50
Lat1 : 27.979N Lon1 : 80.514W
170 116 395 8759
01 04

22127 Date : 07.09.96 20:44:31 LC : B IQ : 00
Lat1 : 27.803N Lon1 : 80.409W
170 98 722 29
00 00

22127 Date : 07.09.96 23:57:30 LC : B IQ : 00
Lat1 : 27.737N Lon1 : 80.636W
170 81 129 166
00 00

22127 Date : 08.09.96 05:51:50 LC : B IQ : 00
Lat1 : 27.674N Lon1 : 80.357W
171 52 129 166
00 00

22127 Date : 08.09.96 07:30:31 LC : B IQ : 00
Lat1 : 27.647N Lon1 : 80.434W
169 36 129 166
00 00

22127 Date : 09.09.96 23:07:01 LC : B IQ : 00
Lat1 : 27.222N Lon1 : 80.134W
167 148 130 162
00 00

22127 Date : 10.09.96 00:49:52 LC : 1 IQ : 50
Lat1 : 27.176N Lon1 : 80.151W
168 40 162 162
00 02

22127 Date : 10.09.96 07:11:37 LC : B IQ : 00
Lat1 : 27.054N Lon1 : 80.085W
165 176 130 162
00 00

22127 Date : 11.09.96 18:17:59 LC : B IQ : 00
Lat1 : 26.700N Lon1 : 80.000W
167 56 111 191
00 01

22128 Date : 12.09.96 06:49:15 LC : 3 IQ : 66
Lat1 : 27.948N Lon1 : 80.495W
173 09 168 126
00 00

22127 Date : 12.09.96 08:30:09 LC : B IQ : 00
Lat1 : 26.521N Lon1 : 80.053W
168 172 170 33385
00 01

22127 Date : 14.09.96 08:06:32 LC : B IQ : 00
Lat1 : 25.684N Lon1 : 80.098W
171 89 157 133
00 00

22127 Date : 15.09.96 13:02:20 LC : B IQ : 00
Lat1 : 25.339N Lon1 : 80.190W
172 104 107 199
00 00

22127 Date : 16.09.96 07:47:03 LC : B IQ : 00
Lat1 : 25.069N Lon1 : 80.305W
172 4178 1135 32963
00 00

22127 Date : 17.09.96 17:15:29 LC : B IQ : 00
Lat1 : 24.781N Lon1 : 80.726W
173 106 99 212
00 01

22127 Date : 19.09.96 11:31:54 LC : B IQ : 00
Lat1 : 24.579N Lon1 : 81.378W
172 262 107 196
00 00

70

Date: 10/3/97
Sender: Barbara Schroeder
To: George Balazs
Priority: Normal
Subject: Re: trackIt vs GIS you're using now

No, haven't hear from Doc. Dean is the one that generally communicates, I'll have to ask her.

The way Andrea and I do the GIS stuff is not as automated as TRACK IT probably is, I think the GIS has more capabilities in the long run to overlay bathymetry, current data, temp data, bottom topography, etc. I pull my data off Argos then enter it in to dBASE and then bring it up in Arc View and check the points, delete the ones that are clearly "incorrect" and then Andrea takes that file and puts it into ArcInfo and manipulates it a little bit with symbols, connecting lines,dates, etc. The Manatee folks have a SAS program that automatically reads in the argos file and puts it in the dbase format and provides other "analyses" of the data. I haven't used that because I don't have SAS here and don't have time to do it that way, I use the way I know which I'm sure is archaic.

_____ Reply Separator

Subject: trackIt vs GIS you're using now
Author: George Balazs at ~NMFS-HONO
Date: 10/2/97 2:07 PM

Doesn't the GIS thing your'e doing now with Andrea do the same as TrackIt would?

Ever hear from Lew? Did he solve the mystery in the Keys and scoop us all??

22128 Date : 03.09.96 22:00:01 LC : B IQ : 00
Lat1 : 27.808N Lon1 : 80.386W
183 274 221 96
00 06

22128 Date : 04.09.96 01:19:59 LC : B IQ : 00
Lat1 : 27.805N Lon1 : 80.402W
183 257 274 78
00 00

22128 Date : 16.08.96 10:03:20 LC : 3 IQ : 67
Lat1 : 33.388N Lon1 : 111.821W Lat2 : 34.910N Lon2 : 118.944W
172 00 00 00
00 00

22128 Date : 16.08.96 15:38:30 LC : 1 IQ : 56
Lat1 : 33.369N Lon1 : 111.790W
207 00 00 00
00 00

22128 Date : 23.08.96 08:44:00 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
177 362 276 54
00 00

22128 Date : 24.08.96 19:55:29 LC : B IQ : 00
Lat1 : 27.914N Lon1 : 80.535W
179 429 296 71
00 00

22128 Date : 25.08.96 08:29:24 LC : B IQ : 00
Lat1 : 27.878N Lon1 : 80.389W
179 536 645 32
00 00

22128 Date : 28.08.96 19:15:48 LC : B IQ : 00
Lat1 : 27.948N Lon1 : 80.442W
176 713 274 77
00 00

22128 Date : 30.08.96 23:29:45 LC : B IQ : 00
Lat1 : 27.856N Lon1 : 80.634W
180 574 326 64
00 00

22128 Date : 05.09.96 19:24:54 LC : B IQ : 00
Lat1 : 27.734N Lon1 : 80.498W
180 934 511 16425
00 00

22128 Date : 10.09.96 07:12:22 LC : A IQ : 00
Lat1 : 27.955N Lon1 : 80.492W
178 200 474 44
00 01

22128 Date : 12.09.96 08:30:30 LC : B IQ : 00
Lat1 : 27.957N Lon1 : 80.474W
173 41 1188 244
02 37

22128 Date : 12.09.96 06:49:15 LC : 3 IQ : 66
Lat1 : 27.948N Lon1 : 80.495W
173 09 168 126
00 00

22128 Date : 15.09.96 12:59:32 LC : B IQ : 00
Lat1 : 27.154N Lon1 : 80.211W
179 152 811 26
00 17

22128 Date : 23.09.96 17:49:03 LC : B IQ : 00
Lat1 : 25.528N Lon1 : 80.094W
183 208 529 39
00 00

22128 Date : 25.10.96 11:51:28 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
173 380 562 36
00 00

22128 Date : 29.10.96 23:15:28 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
175 666 302 69
00 00

22128 Date : 03.11.96 07:25:24 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
176 1037 219 96
00 00

Deployed 22129
8-23-96

22129 Date : 15.08.96 10:14:31 LC : 2 IQ : 68
Lat1 : 33.386N Lon1 : 111.817W
165 21 7529 01
00 01

22129 Date : 14.08.96 20:08:53 LC : Z IQ : 01
Lat1 : 33.388N Lon1 : 111.811W
159 21 21600 01
00 00

22129 Date : 15.08.96 01:58:06 LC : 3 IQ : 60
Lat1 : 33.382N Lon1 : 111.825W
162 21 7657 01
00 00

22129 Date : 16.08.96 15:38:31 LC : 1 IQ : 56
Lat1 : 33.399N Lon1 : 111.849W
198 00 00 00
00 00

Deployed

22129 Date : 23.08.96 11:27:13 LC : 1 IQ : 68
Lat1 : 27.921N Lon1 : 80.483W
171 00 00 00
00 00

BARBARA HOLDING TRANSMITTER ON THE BENCH.

22129 Date : 23.08.96 13:03:26 LC : 1 IQ : 56
Lat1 : 27.930N Lon1 : 80.478W
190 00 04 00
00 00

22129 Date : 27.08.96 19:25:29 LC : A IQ : 00
Lat1 : 27.949N Lon1 : 80.468W
171 100 1296 16
00 00

22129 Date : 29.08.96 10:56:01 LC : B IQ : 00
Lat1 : 27.762N Lon1 : 80.393W
169 157 158 133
00 01

22129 Date : 29.08.96 12:35:51 LC : A IQ : 00
Lat1 : 27.730N Lon1 : 80.355W
171 95 158 181
01 14

22129 Date : 31.08.96 18:41:14 LC : A IQ : 00
Lat1 : 26.637N Lon1 : 80.026W
174 29 93 225
00 00

90
22129

22129 Date : 01.09.96 08:47:04 LC : B IQ : 00
Lat1 : 26.616N Lon1 : 80.065W
173 1244 148 141
00 00

22129 Date : 02.09.96 11:06:55 LC : A IQ : 00
Lat1 : 26.441N Lon1 : 80.036W
173 50 315 66
00 01

22129 Date : 03.09.96 08:27:54 LC : 3 IQ : 60
Lat1 : 26.162N Lon1 : 80.046W
173 63 146 145
00 00

22129 Date : 04.09.96 17:56:01 LC : B IQ : 00
Lat1 : 25.481N Lon1 : 80.112W
177 137 117 182
00 00

22129 Date : 04.09.96 23:18:42 LC : B IQ : 00
Lat1 : 25.407N Lon1 : 80.100W
176 105 112 189
00 00

22129 Date : 08.09.96 13:54:37 LC : B IQ : 00
Lat1 : 24.712N Lon1 : 80.977W
179 106 231 90
00 00

22129 Date : 08.09.96 18:52:58 LC : A IQ : 00
Lat1 : 24.667N Lon1 : 81.120W
181 134 231 90
00 00

22129 Date : 08.09.96 23:34:07 LC : B IQ : 00
Lat1 : 24.651N Lon1 : 81.240W
180 381 113 188
00 01

22129 Date : 10.09.96 22:45:52 LC : B IQ : 00
Lat1 : 24.548N Lon1 : 82.043W
176 157 112 190
00 02

22129 Date : 14.09.96 17:49:26 LC : B IQ : 00
Lat1 : 25.022N Lon1 : 81.237W
178 94 109 194
00 00

22129 Date : 14.09.96 11:44:01 LC : A IQ : 00
Lat1 : 24.964N Lon1 : 81.348W
176 43 109 194
00 00

22129 Date : 14.09.96 11:44:01 LC : A IQ : 00
Lat1 : 24.964N Lon1 : 81.348W
176 43 109 194
00 00

22129 Date : 14.09.96 22:54:49 LC : B IQ : 00
Lat1 : 25.050N Lon1 : 81.276W
177 86 123 173
00 00

22129 Date : 17.09.96 07:36:54 LC : B IQ : 00
Lat1 : 25.090N Lon1 : 81.254W
176 687 129 162
00 00

22129 Date : 18.09.96 23:12:26 LC : B IQ : 00
Lat1 : 25.099N Lon1 : 81.318W
178 388 105 200
00 00

22129 Date : 20.09.96 11:17:26 LC : A IQ : 00
Lat1 : 25.091N Lon1 : 81.273W
177 42 303 66
00 00

22129 Date : 22.09.96 18:00:36 LC : A IQ : 00
Lat1 : 25.064N Lon1 : 81.185W
179 55 289 68
00 00

22129 Date : 26.09.96 12:18:17 LC : B IQ : 00
Lat1 : 25.035N Lon1 : 80.851W
175 155 106 193
00 00

22129 Date : 26.09.96 23:40:06 LC : B IQ : 00
Lat1 : 25.084N Lon1 : 81.375W
175 195 140 147
00 00

22129 Date : 29.09.96 07:05:47 LC : A IQ : 00
Lat1 : 25.117N Lon1 : 81.316W
174 12 105 196
00 01

22129 Date : 30.09.96 10:54:17 LC : A IQ : 00
Lat1 : 25.069N Lon1 : 81.245W
173 457 229 85
00 00

22129 Date : 30.09.96 10:54:17 LC : A IQ : 00
Lat1 : 25.069N Lon1 : 81.245W
173 457 229 85
00 00

22129 Date : 10.10.96 12:16:24 LC : A IQ : 00
Lat1 : 25.075N Lon1 : 81.265W Lat2 : 24.365N Lon2 : 78.007W
169 05 198 12750
00 51

22129 Date : 23.10.96 00:11:20 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ???????? Lat2 ???????
166 14 33879 33494
01 09

Deployed 8-14-96

1996 97

25689 Date : 14.08.96 11:19:28 LC : 1 IQ : 67
Lat1 : 27.957N Lon1 : 80.512W
176 16 256 16384
00 00

25689 Date : 14.08.96 13:01:50 LC : A IQ : 00
Lat1 : 27.959N Lon1 : 80.509W
183 00 00 00
00 00

25689 Date : 14.08.96 18:25:16 LC : A IQ : 08
Lat1 : 27.882N Lon1 : 80.411W
162 91 00 00
00 00

25689 Date : 15.08.96 06:56:14 LC : A IQ : 00
Lat1 : 27.639N Lon1 : 80.290W
155 05 51 301
00 01

25689 Date : 16.08.96 13:57:22 LC : A IQ : 00
Lat1 : 26.772N Lon1 : 80.026W
159 13 81 259
00 01

25689 Date : 16.08.96 17:59:43 LC : B IQ : 00
Lat1 : 26.663N Lon1 : 80.036W
168 346 81 259
00 01

25689 Date : 17.08.96 08:12:00 LC : B IQ : 00
Lat1 : 26.355N Lon1 : 80.045W
168 308 84 250
00 00

25689 Date : 18.08.96 11:33:01 LC : B IQ : 00
Lat1 : 25.714N Lon1 : 80.167W
170 81 125 166
00 00

25689 Date : 18.08.96 17:40:45 LC : 2 IQ : 66
Lat1 : 25.567N Lon1 : 80.101W Lat2 : 33.906N Lon2 : 41.438W
172 100 117 166
00 00

25689 Date : 21.08.96 07:26:51 LC : B IQ : 00
Lat1 : 25.444N Lon1 : 80.265W
169 602 174 116
00 00

25689 Date : 24.08.96 22:20:20 LC : A IQ : 00
Lat1 : 25.446N Lon1 : 80.179W
169 428 302 67
00 00

25689 Date : 30.08.96 12:09:05 LC : B IQ : 00
Lat1 : 27.886N Lon1 : 80.973W
164 180 65 252
00 00

25689 Date : 02.09.96 08:37:01 LC : B IQ : 00
Lat1 : 26.023N Lon1 : 79.925W
168 230 87 241
00 01

25689 Date : 07.09.96 10:59:11 LC : B IQ : 00
Lat1 : 25.523N Lon1 : 80.120W

25689 Date : 05.09.96 19:21:19 LC : B IQ : 00
Lat1 : 25.936N Lon1 : 79.593W
173 68 336 59
00 00

25689 Date : 05.09.96 22:52:22 LC : B IQ : 00
Lat1 : 25.394N Lon1 : 80.378W
172 140 114 178
00 00

25689 Date : 12.09.96 08:33:34 LC : B IQ : 00
Lat1 : 25.510N Lon1 : 80.199W
170 576 33972 37483
00 32

25689 Date : 12.09.96 08:33:34 LC : B IQ : 00
Lat1 : 25.510N Lon1 : 80.199W
170 576 33972 37483
00 32

25689 Date : 19.09.96 11:33:23 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
170 251 364 54
00 00

25689 Date : 20.09.96 07:04:33 LC : A IQ : 60
Lat1 : 21.926N Lon1 : 64.435W
171 413 215 93 Lat2 : 25.433N Lon2 : 80.15
00 00

25689 Date : 21.09.96 10:50:44 LC : A IQ : 60
Lat1 : 25.434N Lon1 : 80.147W
170 93 376 52
00 00

25689 Date : 21.09.96 10:50:44 LC : A IQ : 60
Lat1 : 25.434N Lon1 : 80.147W
170 93 376 52
00 00

25689 Date : 21.09.96 18:12:15 LC : B IQ : 00
Lat1 : 25.370N Lon1 : 80.143W
174 298 376 52
00 00

25689 Date : 22.09.96 06:39:00 LC : A IQ : 00
Lat1 : 25.479N Lon1 : 79.921W
170 505 250 1102
01 00

25689 Date : 23.09.96 13:26:34 LC : B IQ : 00
Lat1 : 25.439N Lon1 : 80.146W
170 142 243 80
00 00

25689 Date : 27.09.96 18:48:54 LC : B IQ : 00
Lat1 : 25.426N Lon1 : 80.140W
170 457 372 52
00 00

25689 Date : 28.09.96 00:56:24 LC : B IQ : 00
Lat1 : 25.421N Lon1 : 80.162W
169 500 226 87
00 00

25689 Date : 29.09.96 18:23:44 LC : B IQ : 00
Lat1 : 25.415N Lon1 : 80.200W
171 263 326 59
00 00

25689 Date : 30.09.96 00:11:59 LC : B IQ : 00
Lat1 : 25.420N Lon1 : 80.168W
170 469 170 117
00 00

25689 Date : 09.10.96 10:59:49 LC : B IQ : 00
Lat1 : 25.438N Lon1 : 80.146W
166 9762 10852 51375
03 12

25689 Date : 09.10.96 22:11:05 LC : B IQ : 00
Lat1 : 25.422N Lon1 : 80.171W
168 182 357 1590
00 00

25689 Date : 11.10.96 11:53:33 LC : A IQ : 00
Lat1 : 25.434N Lon1 : 80.157W
164 28 370 52
00 00

25689 Date : 12.10.96 06:25:53 LC : B IQ : 00
Lat1 : 25.440N Lon1 : 80.156W
162 479 150 133
00 00

25689 Date : 07.10.96 18:38:23 LC : B IQ : 00
Lat1 : 25.431N Lon1 : 80.159W
168 180 386 50
00 00

25689 Date : 08.10.96 07:09:29 LC : B IQ : 00
Lat1 : 25.443N Lon1 : 80.155W
166 212 170 118
00 00

25689 Date : 03.10.96 17:44:30 LC : A IQ : 00
Lat1 : 25.441N Lon1 : 80.156W
169 217 451 39050
01 00

25689 Date : 04.10.96 00:25:31 LC : A IQ : 08
Lat1 : 25.440N Lon1 : 80.122W
169 471 95 206
00 00

25689 Date : 22.10.96 06:17:53 LC : A IQ : 60
Lat1 : 25.448N Lon1 : 80.164W

25689 Date : 25.10.96 11:48:59 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
162 247 331 58
00 00

25689 Date : 29.10.96 11:59:58 LC : B IQ : 00
Lat1 : 25.438N Lon1 : 80.293W
162 61 343 57
00 01

25689 Date : 31.10.96 11:17:30 LC : B IQ : 00
Lat1 : 25.459N Lon1 : 80.184W
163 234 282 69
00 00

25689 Date : 01.11.96 07:44:44 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
163 425 492 12496
02 46

25689 Date : 06.11.96 18:13:16 LC : A IQ : 00
Lat1 : 25.427N Lon1 : 80.156W
163 489 355 55
00 00

25689 Date : 23.12.96 08:27:38 LC : 1 IQ : 60
Lat1 : 25.435N Lon1 : 80.156W
150 904 283 73
00 00

25689 Date : 21.01.97 13:04:35 LC : 2 IQ : 56
Lat1 : 25.431N Lon1 : 80.125W
152 42 505 40
00 01

25689 Date : 24.01.97 07:37:11 LC : 0 IQ : 60
Lat1 : 25.441N Lon1 : 80.202W
153 10192 355 58
01 34

```
Calcul freq : 401 650354.5 Hz Altitude : 0 m
59911 59911

25689 Date : 12.02.97 11:39:53 LC : Z IQ : 00
 Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
 Nb mes : 001 Nb mes>-120dB : 000 Best level : -134 dB
 Pass duration : ? s NOPC : ?
 Calcul freq : 401 650000.0 Hz Altitude : 0 m
 155 1148 421 18479
 00 00

25689 Date : 19.01.97 18:07:40 LC : A IQ : 00
 Lat1 : 25.451N Lon1 : 79.975W
        152 2078 436 46
        00 00

25689 Date : 20.01.97 08:25:14 LC : A IQ : 00
 Lat1 : 25.411N Lon1 : 80.091W
      155 1312 251 81
      00 00
```

Date: 12/22/97
Sender: Barbara Schroeder
To: Therese Conant, aem782@aol.com, dab15782@pegasus.cc.ucf.edu, foley_a@harpo.dep.state.fl.us, lehrhart@pegasus.cc.ucf.edu, sandy_macpherson@mail.fws.gov, spinnaker@prodigy.net, George Balazs
Priority: Normal
Subject: At Last an Update

Okay, so I could go on and on about how busy I've been, traveling all over the place (this is a bad thing), the holidays, a kidney stone, but hey, I won't make excuses.....well maybe just a few.

SO, the news from Lake Turtlebegone is:

No one be gone.

Since my last update (which was like in early November 1959), there are three turtles who transmitted location data - Marjorie, Rhonda, and Endora (the champion transmitter). And, no big surprise, they haven't moved. They are just plain stuck. Here are the last valid positions:

Marjorie:	12/21/97	24 30.1'N	81 53.1'W
Rhonda:	12/02/97	24 38.5'N	81 07.3'W
Endora:	12/20/97	25 31.0'N	80 11.0'W

I got a great location class 2 position on Endora on 12/15 and a class 2 on Marjorie on 11/11 - which are great for validation!

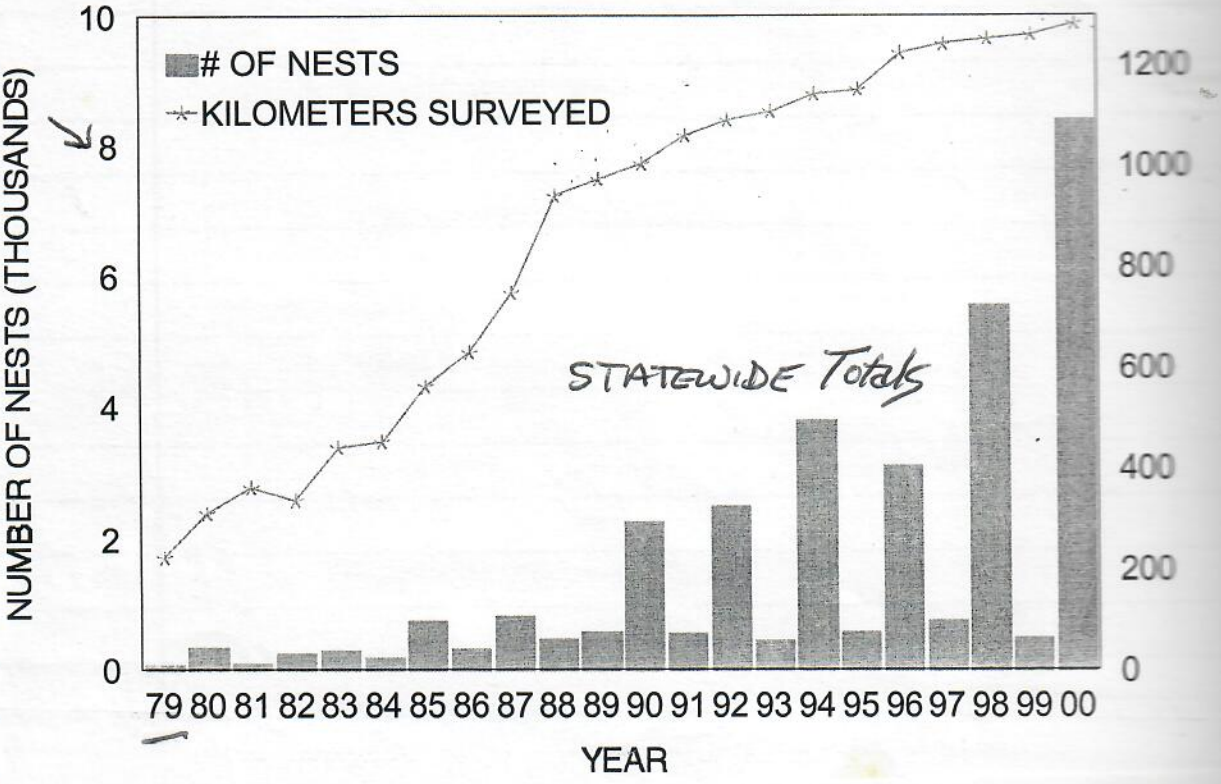
As for the other two girls, Flo-Jo last transmitted on 12/17 and she has been transmitting intermittently but no location, she's probably lost her antenna. Poor Jacques-line has still not checked in.

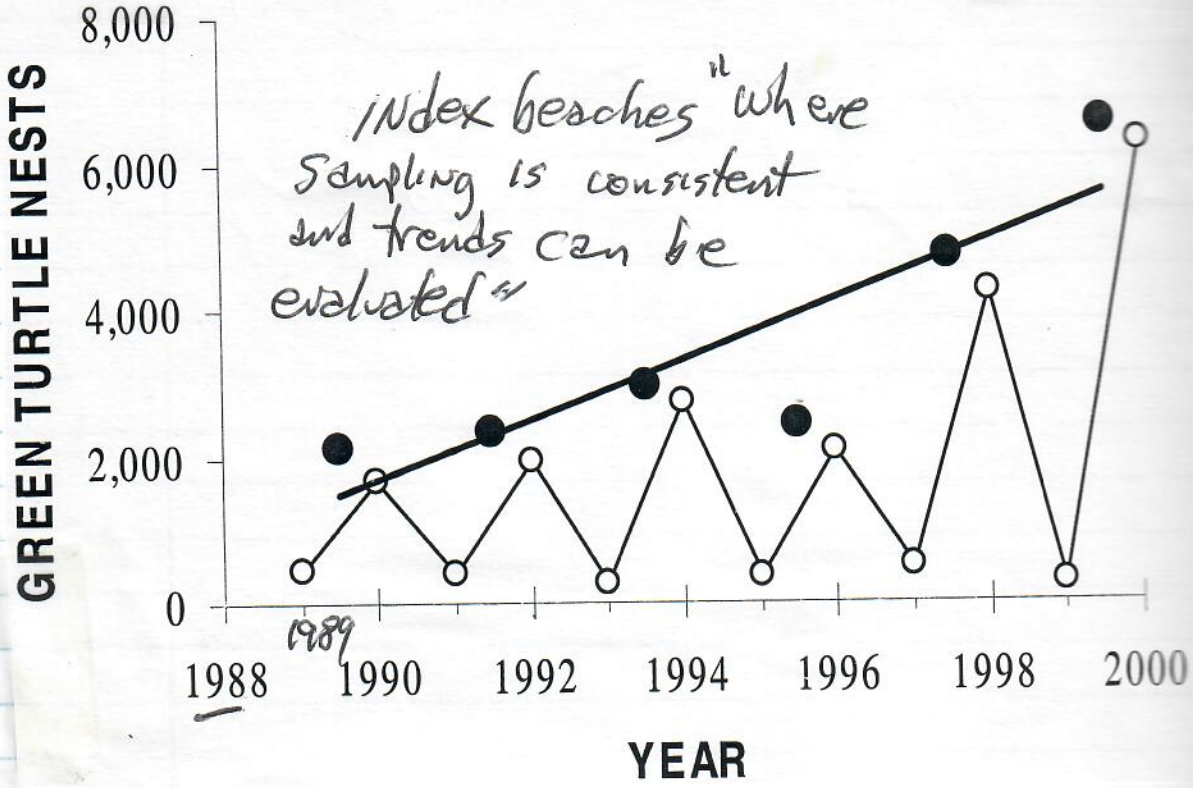
Okay, so, the three above are still where we last left them in the Keys. I won't be updating you again until 1998. I'll be sending these files to Andrea tonight so the CCC web page maps will be updated soon if you want to take a look. Dean, please share with the rest of the UCF crew.

Hope you all have a great holiday,

Barbara

GREEN TURTLE NESTING AND SURVEY EFFORT IN FLORIDA 1979 - 2000





Reduce
FL book

1999 SEASON

FLORIDA STATEWIDE NESTING BEACH SURVEY DATA
Florida Marine Research Institute
Florida Fish and Wildlife Conservation Commission
DATA SUMMARY DATE: 17 MAY 2000

COUNTY	SURVEY LENGTH (KM)	*C. caretta* NEST	*C. caretta* NON-NESTING EMERGENCE	*C. mydas* NEST	*C. mydas* NON-NESTING EMERGENCE	*D. coriacea* NEST	*D. coriacea* NON-NESTING EMERGENCE
EAST COAST							
Nassau	18.2	148	96	0	0	2	0
Duval	24.6	119	42	0	0	2	0
St. John's	63.5	274	135	0	1	3	0
Flagler	26.7	237	102	0	1	3	1
Volusia	80.5	2,263	1,951	3	6	6	3
Brevard	108.0	34,134	32,130	125	197	43	1
Indian River	20.6	3,591	3,320	44	28	15	3
St. Lucie	34.4	5,864	6,124	21	49	49	39
Martin	35.3	9,380	9,918	48	103	193	93
Palm Beach	63.6	13,182	12,927	194	135	221	32
Broward	38.6	2,584	3,025	24	32	12	2
Miami-Dade	37.8	516	565	0	0	9	5
Monroe	50.1	370	572	15	3	0	0
EAST TOTALS	601.9	72,662	70,907	474	555	558	179
WEST COAST							
Collier	61.0	1,260	1,335	0	0	0	0
Lee	69.1	851	774	2	8	0	0
Charlotte	21.3	1,009	811	0	0	0	0
Sarasota	53.9	3,316	2,392	0	0	0	0
Manatee	21.7	436	353	0	0	0	0
Hillsborough	5.1	54	54	0	0	0	0
Pinellas	62.6	172	272	0	0	0	0
Franklin	91.9	486	273	2	2	0	0
Gulf	54.8	519	489	0	0	0	0
Bay	58.0	94	137	1	1	0	0
Walton	46.9	72	39	0	0	0	0
Okaloosa	38.3	28	22	0	0	0	0
Santa Rosa	11.2	13	9	0	0	0	0
Escambia	58.9	73	32	0	0	0	0
WEST TOTALS	654.7	8,383	6,992	5	11	0	0
STATE TOTALS	1256.6	81,045	77,899	479	566	558	179

106

Date: Wed, 12 Feb 1997 11:48:49 -0500 (EST)
From: "Mosier, Andrea" <MOSIER_A@harpo.dep.state.fl.us>
To: GBALAZS@honlab.nmfs.hawaii.edu
Subject: Re: nesting data reply - Reply

1996 Season

OK - here are the totals for 1995 Statewide:

Survey Length (km) = 1148.4
CC Nests = 80,444
CC FC = 75,373

CM Nests = 564
CM FC = 609

Sorry, 1996 data are not available yet (we don't have them all). Let me know if there was any other information that you need.
Andrea

Date: Fri, 26 Feb 1999 17:23:49 -0500 (EST)
From: Andrea Mosier STP <MOSIER_A@epic7.dep.state.fl.us>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Annual Censuses of Florida Greens

Hello George,
YES, the data I gave you for green turtle nesting is for the area we call "South Brevard Beaches", which has been a consistant area since 1989 (which you will find the data in Table 2. of the Meylan et. al., technical report. the 1996 numbers are:

1996

Nests 990
FC 1081

This is the same area I sent for 1993 - 1995 last year.
Hope this helps, looking forward to seeing you in Texas,
Andrea

8/00

Date: Fri, 18 Aug 2000 08:53:44 -0400
From: Barbara Schroeder <Barbara.Schroeder@noaa.gov>
To: George Balazs <gbalazs@honlab.nmfs.hawaii.edu>
Subject: [Fwd: Lost and Found Satellite Tag]

what luck! I think this is Snapper, post-nesting green from 1996.

Need

Pod F

-------- Original Message --------
Subject: Lost and Found Satellite Tag
Date: Thu, 17 Aug 2000 15:49:25 -0400
From: "Foley, Allen" <Allen.Foley@fwc.state.fl.us>
To: "Barbara Schroeder (E-mail)" <Barbara.Schroeder@noaa.gov>
CC: "Witherington, Blair" <spinnaker@prodigy.net>,"Snodgrass, Derke" <Derke.Snodgrass@fwc.state.fl.us>

I got a call today from a man in Marathon who found one of our ST-14's in
the sand among some coral heads (location about 2.5 miles south of Marathon
- 24 42.804/80 56.693). It still has some of the fiberglass cloth attached
to it along with a very thin layer of scutes. It sounds like the housing is
intact and he's going to drop it off at the FMRI lab in Marathon for Derke
(Derke: Would you please send it to me when you get a chance?)

He could still read Marine Turtle Research on the card but it was hard for
him to read the turtle number. He said it looked like #29.

==========
Allen M. Foley, Ph.D.
Assistant Research Scientist
Florida Marine Research Institute
Florida Fish and Wildlife Conservation Commission
100 8th Avenue SE
St. Petersburg, FL 33701-5095

1989 - 1996 FLORIDA INDEX NESTING BEACH SURVEY DATA

Florida Marine Research Institute

Florida Department of Environmental Protection

YEAR	*C. caretta* NEST	*C. caretta* FALSE CRAWL	*C. mydas* NEST	*C. mydas* FALSE CRAWL	*D. coriacea* NEST	*D. coriacea* FALSE CRAWL
1989*	39,172	37,245	466	525	44	17
1990	51,413	46,665	1747	1504	30	16
1991	53,899	49,694	397	429	69	16
1992	48,875	40,515	1988	2103	63	10
1993	42,689	38,289	272	262	48	10
1994	52,283	46,898	2,804	2,626	81	16
1995	59,379	52,928	359	385	85	23
1996	54,559	50942	2138	2781	76	26

*Does not include Juno Beach Zones J&K or J.U. Lloyd SRA Zone E

108 See p. 119

FAX TRANSMITTAL SHEET

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE
TEQUESTA FIELD STATION
19100 SE Federal Highway
Tequesta, FL 33469

PHONE: 407-575-5407 / 221-5408 (Suncom)
FAX: (407) 743-6228

Number of Pages (including this sheet): 5

Date: 3-15-97

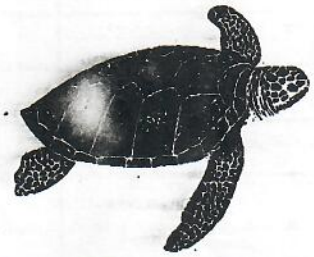
To: George Balazs

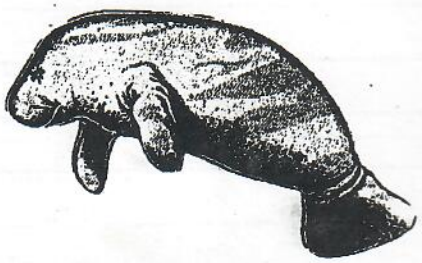
From: Layne Bolen

Message: INBS data for 1995-1996 as requested. Hope this is helpful. Please call if any questions.

Have a nice day,

Layne





FROM:KONICA FAX TO: 808 943 1290 MAR 14. 1997 2:59PM P.01

1995 FLORIDA INDEX NESTING BEACH SURVEY DATA
Florida Marine Research Institute
Florida Department of Environmental Protection

BEACH CODE	BEACH NAME	*C. caretta* NEST	*C. caretta* FALSE CRAWL	*C. mydas* NEST	*C. mydas* FALSE CRAWL	*D. coriacea* NEST	*D. coriacea* FALSE CRAWL
	EAST COAST						
1	Ft. Clinch SP	10	0	0	0	0	0
2	Amelia Island	45	16	0	0	0	0
3	Little Talbot Island SP	25	6	0	0	0	0
4	Atlantic-Jacksonville Beach	26	19	0	0	0	0
5	Guana River SP	41	13	0	0	0	0
6	Fort Matanzas NM	11	6	0	0	0	0
7	Flagler Beach SRA	74	33	2	0	2	0
8	Canaveral National Seashore	3569	2671	46	37	0	0
9	Merritt Island NWR	1105	1254	4	5	0	0
10	Canaveral Air Force Station	2833	2737	7	3	0	0
11	Patrick Air Force Base	1559	1148	1	1	0	0
12	South Brevard County	22218	17859	109	147	2	0
13	Sebastian Inlet SRA	1243	873	13	18	0	0
14	Wabasso Beach	1965	1856	14	2	5	1
15	Ft. Pierce Inlet SRA	317	255	6	0	0	0
16	Hutchinson Island	7791	6472	16	20	13	10
17	St. Lucie Inlet SP	459	340	0	1	1	0
18	Hobe Sound NWR	1363	1310	8	6	11	5
19	Jupiter Island	5713	7361	41	47	27	6
20	Juno Beach	5970	5105	48	39	14	1
21	Boca Raton	898	1091	12	18	6	0
22	J.D. MacArthur SP	1310	1427	22	15	2	0
23	John U. Lloyd SRA	238	327	10	4	0	0
24	Miami Beaches	212	165	0	0	2	0
	WEST COAST						
26	Sanibel Island	39	135	0	2	0	0
27	Wiggins Pass SRA	212	242	0	0	0	0
28	Keewaydin Island	133	208	0	0	0	0
	INBS TOTAL	59,379	52,928	359	368	85	23

NM = National Monument NWR = National Wildlife Refuge SP = State Park SRA = State Recreation Area

INBS NON-DBASE DISKETTE:INBS1995.TAB (5/9/96)

1996 FLORIDA INDEX NESTING BEACH SURVEY DATA

Florida Marine Research Institute

Florida Department of Environmental Protection

BEACH CODE	BEACH NAME	*C. caretta* NEST	*C. caretta* FALSE CRAWL	*C. mydas* NEST	*C. mydas* FALSE CRAWL	*D. coriacea* NEST	*D. coriacea* FALSE CRAWL
	EAST COAST						
1	Ft. Clinch SP	9	2	1	0	0	0
2	Amelia Island	92	35	2	0	0	0
3	Little Talbot Island SP	29	7	0	0	0	0
4	Atlantic-Jacksonville Beach	38	28	0	0	0	0
5	Guana River SP	25	13	2	5	0	0
6	Fort Matanzas NM	18	6	1	0	0	0
7	Flagler Beach SRA	58	28	2	6	0	0
8	Canaveral National Seashore	2957	2333	197	275	3	0
9	Merritt Island NWR	1398	1030	88	74	0	0
10	Canaveral Air Force Station	2705	2452	39	33	1	0
11	Patrick Air Force Base	1369	1826	24	26	0	0
12	South Brevard County	19514	18875	847	932	7	0
13	Sebastian Inlet SRA	1455	899	67	37	0	0
14	Wabasso Beach	2154	2021	53	60	0	0
15	Ft. Pierce Inlet SRA	670	433	3	2	0	1
16	Hutchinson Island	7583	7380	163	235	31	10
17	St. Lucie Inlet SP	344	348	23	14	1	0
18	Hobe Sound NWR	1303	1353	36	69	2	0
19	Jupiter Island	4221	5459	129	449	10	7
20	Juno Beach	5868	3628	267	331	15	8
21	Boca Raton	854	913	80	114	2	0
22	J.D. MacArthur SP	1164	996	86	59	4	0
23	John U. Lloyd SRA	197	286	18	46	0	0
24	Miami Beaches	171	197	10	13	0	0
	WEST COAST						
26	Sanibel Island	56	78	0	1	10	0
27	Wiggins Pass SRA	190	170	0	0	0	0
28	Keewaydin Island	117	146	0	0	0	0
	INBS TOTAL	54559	50942	2138	2781	76	28

NM = National Monument NWR = National Wildlife Refuge SP = State Park SRA = State Recreation Area

INBS NON-DBASE DISKETTE:INBS1996.TAB (2/18/97)

FLORIDA INDEX NESTING BEACHES

Beach Code	Beach Name	County	Length (km)	Organization
EAST COAST				
1	Fort Clinch State Park	Nassau	3.7	FDEP
2	Amelia Island	Nassau	20.8	Amelia Island Turtle Watch
3	Little Talbot Island State Park	Duval	8.0	FDEP
4	Atlantic-Jacksonville Beach	Duval	12.8	Beaches Sea Turtle Patrol
5	Guana River State Park	St. John's	6.7	FDEP
6	Fort Matanzas National Monument	St. John's	7.7	NPS
7	Flagler Beach SRA	Volusia/Flagler	5.6	FDEP
8	Canaveral National Seashore	Volusia/Brevard	38.0	NPS
9	Merritt Island NWR	Brevard	9.9	USFWS
10	Canaveral Air Force Station	Brevard	21.0	USAF
11	Patrick Air Force Base	Brevard	7.0	UCF/USAF
12	South Brevard County	Brevard	40.5	UCF
13	Sebastian Inlet SRA	Brevard/Indian River	4.8	FDNR
14	Wabasso Beach	Indian River	8.0	USFWS
15	Ft. Pierce Inlet SRA	St. Lucie	9.6	FDEP
16	Hutchinson Island	St. Lucie/Martin	36.5	Applied Biology
17	St. Lucie Inlet State Preserve	Martin	4.3	FDEP
18	Hobe Sound NWR	Martin	5.6	USFWS
19	Jupiter Island	Martin	12.0	Town of Jupiter
20	Juno Beach	Palm Beach	8.4	Marinelife Center
21	Boca Raton	Palm Beach	8.0	Gumbo Limbo Nature Center
22	J.D. MacArthur State Park	Palm Beach	2.9	FDEP
23	John U. Lloyd SRA	Broward	3.4	FDEP
24	Miami Beaches	Dade	20.0	Metro-Dade County
	TOTAL		305.2	
WEST COAST				
26	Sanibel Island	Lee	5.6	Sanibel-Captiva Foundation
27	Wiggins Pass SRA	Lee/Collier	6.4	FDEP
28	Keewaydin Island	Collier	6.9	The Conservancy, Inc.
	TOTAL		18.9	
	STATEWIDE TOTAL		324.1	

C:\WP51\BAS\INBSLIST.2

See Florida Grey Book for additional information

need request 1996

TABLE 1. NUMBER OF REPORTED MARINE TURTLE NESTS AND SURVEYED BEACH LENGTHS IN FLORIDA, 1979–1992. SURVEY EFFORT IS DEFINED IN THE TEXT.

Year	*Caretta caretta*		*Chelonia mydas*		*Dermochelys coriacea*	
	Number of Nests	Survey Effort (km)	Number of Nests	Survey Effort (km)	Number of Nests	Survey Effort (km)
1979	10121	222.4	62	132.2	18	[illegible]
1980	12460	311.0	331	225.9	10	[illegible]
1981	13827	361.0	89	202.6	42	[illegible]
1982	20889	336.2	243	173.5	45	[illegible]
1983	23039	441.8	281	194.2	39	[illegible]
1984	21695	450.6	181	249.6	41	[illegible]
1985	27017	562.5	737	274.3	89	[illegible]
1986	33115	628.4	313	247.4	41	[illegible]
1987	32942	749.1	800	349.6	117	[illegible]
1988	37242	940.7	455	354.7	106	[illegible]
1989	49422	972.0	579	392.4	98	[illegible]
1990	66685	1004.6	2266	398.8	120	[illegible]
1991	68614	1060.0	554	396.9	188	[illegible]
1992	64974	1090.8	2509	407.1	177	[illegible]
1993	55821	1108.8	435	400.2		
1994	71754	1141.7	3797	407.2		
1995	80295	1109	564	394		
1996						

949 / 3797 — just 36 in index areas!

average 4 nests per green? — Steve Johnson

We recognize that the number of kilometers of monitored beach is an imperfect measure of survey effort because of the differences in the frequency (days per week) and extent (beginning and ending dates) of the surveys on individual beaches. However, some measure of survey effort is needed to interpret nesting totals. As can be seen in Table 1, survey effort for loggerhead turtles has increased from 222.4 km to 1,090.8 km during the study period. It has remained relatively constant during the past five years, although the specific areas surveyed have changed somewhat.

Not all nesting beaches in Florida were monitored. In fact, some beaches that have significant nesting activity, such as Wabasso Beach in Indian River County, have been surveyed only for the past few years.

In a few instances, the date of the first or last nest on a particular beach does not fall within the survey dates (Appendix Tables 1–5). In these cases, permit holders incidentally observed nests on the beach before or after the regular survey period.

Date: Wed, 26 Aug 1998 13:37:08 -0400 (EDT)
From: Linh Uong <ltu64696@pegasus.cc.ucf.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: from Melbourne

Reduce FL Book

Hi George,

Well, the greens are breaking records up + down the beach. As of 24 Aug, we had 1542 green turtles in the Refuge, 1957 for all of south Brevard (minus Patrick AFB). At the end of 94, we only had 1107 green turtle nests and that was our best green year (year you visited the beach, right? smile)

Guy-wise. Well.... if I'm not thinking about my thesis, I'm thinking about Dan Wood. Think I mentioned ho to you before? He was a student of Karen+Alan's at U of FL. He finished last spring + right now is teaching on Roatan, island off Honduras. I'm not sure what will happen because he'll be in Honduras for a year, but we're good friends at the least. Smile.

Meanwhile, hope all is well there.

Smile, Linh

Date: Fri, 15 Jan 1999 12:04:35 -0400 (EDT)
From: Andrea Mosier STP <MOSIER_A@epic7.dep.state.fl.us>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>,
barbara.schroder@noaa.gov
Subject: Re: Annual Censuses of Florida Greens

Hello George,
Yes, I am still here and I have the information you need! (We've just finished "Public Service Training" so we're extra "helpful" around here these days).

The green turtle numbers are:

South Brevard County:

1997 208 nests
189 FC

1998 2093 nests
2830 FC

I will be in Texas and looking forward to seeing everyone there!
Let me know if you need anything else,
Andrea

Date: Tue, 12 Mar 1996 16:37:27 GMT
From: Lisa and Debbie <USEROFFICE@argosinc.com>
To: gbalazs@honlab.nmfs.hawaii.edu
Cc: USEROFFICE@argos5.argosinc.com
Subject: RE: Australian program 01446

Dear George,

I will try to explain, best I can, about the differences between your data and your Australian colleagues' data.

I will take for my example, platform 24221 in program 1446, and platforms 22129 and 24179 in your program.

Platform 24221 is set up for decimal processing with the following sensor configuration:

sensor 1: 16 bits, decimal processing
sensor 2: 16 bits, decimal processing
sensor 3: 16 bits, decimal processing
sensor 4: 16 bits, decimal processing

The data you faxed me from this platform is the TX format. That shows the best result from each pass. The reason the last four readings show the same position is because he did not receive a location update. If you look at the second field in the date/time group, you will see that the date and time of the position are the same. It could be that not enough messages were received to update the location. In the date/time group 046/2052Z-045/1003, the data collection was on day 46 at 20:52Z. The last location was on day 45 at 10:03Z. If there is not a location update, it will report the most recent location in the system. For this particular data, the last location update was day 45 at 10:03Z. Even though the platform transmitted data at a later day/time, this is the most recent location, and that is why it is repeated in the last four messages. The reason you are not seeing two positions reported in this data is because it is the TX format. In order to see the two lats and longs, you need to either use the prv/a or diag command. When he logs into the Argos system, he may type help,prv/a or help,diag to see how to use these commands.

Platform 22129 in your program is set up for decimal processing with the following sensor configuration:

sensor 1: 8 bits, decimal processing
sensor 2: 16 bits, decimal processing
sensor 3: 16 bits, decimal processing
sensor 4: 16 bits, decimal processing
sensor 5: 2 bits, decimal processing
sensor 6: 6 bits, decimal processing

Platform 24179 in your program is set up for decimal processing with the following sensor configuration:

sensor 1: 16 bits, decimal processing
sensor 2: 16 bits, decimal processing

The data that is sent to you through automatic distribution service comes in two formats. The first is Dispose, the second is DIAG. Since you are set up for auxiliary location processing, you are at an advantage to receive more locations. Even though a platform may not have a location calculated

during a specific pass for the Dispose file, the location may show up in the DIAG file. An example of this might happen when the previous location is more than 4 days old. The new location would show up in the DIAG file, but not the Dispose because the previous location is too old to help determine whether the new location is valid.

Anyway, your colleague should be looking at the DIAG file since he is also set up for auxiliary location processing. He may want to contact Telonics to find out the sensor configuration of the transmitter. Then we can make the configuration change in our system.

I hope I have answered all of your questions. If I confused you or you have any other questions, you may want to try to call me at 301-925-4411, ext 145. This is much easier to explain over the phone.

Have a great day, and get some sunshine for me!

Best regards,
Debbie

Date: Thu, 5 Sep 1996 19:47:58 -0400
From: BASFMRI@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Re: Various

Nope, your e-mails are not getting lost, I'm getting them, just having trouble keeping up with everything. On nesting Florida greens I have four out: they are 22127, 22128, 22129, 25689. On male Florida greens I have one (running under my program I.D.). The other tag that will run under your I.D. is the "swapped" tag from Florida Bay (on the adult male). I think that is number 25691 but it won't go out for awhile yet. I'm not sure about the #88 you referenced but I recall I wrote the wrong number on the card on the transmitter, so, I think the turtle referenced in the article is 25689. I have all this in my field book but it's at the lab. Either way, the four tags above are the ones running on female greens. I'll xerox the field pages and send them along FYI as well as recent GIS maps of them. Two have gone south, two remain. Haven't plotted today's just yet.

Gotta eat dinner...B.

1997 SPST

Beach Activity...

Upper Matecumbe 1 crawl
Lower Matecumbe 19 crawls
Sea Oats 4 crawls 6 nests
Grassy Key 3 crawls 2 nests
Little Crawl Key 3 crawls
Coco Plum Beach 22 crawls 3 nests
Key Colony Beach 1 nest
Sunrise Isle 6 crawls
Bahia Honda Key 16 crawls 19 nests
Long Beach 17 crawls 8 nests
KW Nat'l Wildlife Refuge: Loggerhead & Greens
53 nests 73 False crawls 7 Unknown
Great White Heron NWR: Loggerhead & Greens
7 nests 6 Unknown
(One green nest had 206 eggs!!!! 106 hatched
This is the most eggs Elaine and Tom Wilmers has ever had.)

How about the count of turtle nests at Hutchinson Island through the end of June 30, 1997?

Loggerheads 3,522 nests
Green Turtles 6 nests
Leatherbacks 42 nests

New Members ....

Jody Knubel – Summerland Key, Fl.
Forrest Shaw – South Miami, Fl.

Date: Tue, 12 Mar 1996 19:07:24 GMT
From: Lisa and Debbie <USEROFFICE@argosinc.com>
To: gbalazs@honlab.nmfs.hawaii.edu
Cc: USEROFFICE@argos5.argosinc.com
Subject: RE: Australian program 01446

Dear George,

Sure, you may send your colleague a fax of my response about his platforms/data.

Platform 22129 is in your program 1092. Following is a list of all platforms in both your programs, 1092 and 9092. If you have any questions, please do not hesitate to contact me.

It would be nice to have a user seminar in Honolulu!! However, I would probably not be the person of choice to send to Hawaii. I may be coming to Hawaii in June. If so, I would like to visit you to see how you keep track of all your turtles. I will keep you informed.

Best regards,
Debbie

List of platforms belonging to a program

Program number: 01092
User code : BALAZS

Date modified: 03-Jan-1996
Site: USA

Number of platforms: 25
Meteorological code:

Platform	Service	Center	Type	Class	Sensors	Alarm	WMO n°	Date modif.
ST3 04800 FFS 8/92	S	U	-3	4	06	N		20-Aug-1995
04801	S	U	-3	4	06	N		20-Aug-1995
04802	S	U	-3	4	06	N		20-Aug-1995
ST3 04803 FFS 8/93	S	U	-3	4	06	N		30-Aug-1995
04804	S	U	-3	4	06	N		21-Aug-1995
ST3 04805 ROSE 10/94	S	U	-3	4	06	N		21-Aug-1995
04806	S	U	-3	4	06	N		21-Aug-1995
04807	S	U	-3	4	06	N		21-Aug-1995
ST3 04808 ROSE 11/93	S	U	-3	4	06	N		21-Aug-1995
04809	S	U	-3	4	06	N		21-Aug-1995
22127	S	U	-3	4	06	N		20-Jan-1996
ST3 22128 FL 7/95	S	U	-3	4	06	N		20-Jan-1996
22129	S	U	-3	4	06	N		20-Jan-1996
ST10 24179 KBAY	S	U	-3	4	02	N		30-Aug-1995
•24180	S	U	-3	4	02	N		30-Aug-1995
•24181	S	U	-3	4	02	N		30-Aug-1995
ST •24182	S	U	-3	4	02	N		30-Aug-1995
10 •24183	S	U	-3	4	02	N		30-Aug-1995
•24184	S	U	-3	4	02	N		30-Aug-1995
24185	S	U	-3	4	02	N		30-Aug-1995
24186	S	U	-3	4	02	N		30-Aug-1995
ST 24187 AZORES	S	U	-3	4	02	N		30-Aug-1995
10 24188 9/95	S	U	-3	4	02	N		30-Aug-1995
24189	S	U	-3	4	02	N		30-Aug-1995
24190	S	U	-3	4	02	N		30-Aug-1995

List of platforms belonging to a program

Program number: 09092
User code : BALAZS

Date modified: 03-Jan-1996
Site: USA
Number of platforms: 23
Meteorological code:

Platform	Service	Center	Type	Class	Sensors	Alarm	WMO n°	Date modif.
ST3 22125 FFS 6/95	S MALE	U	-3	4	06	N		20-Jan-1994
ST3 22126 KAME 8/95	S	U	-3	4	06	N		20-Jan-1994
22130 AZORES 94	S	U	-3	4	06	N		20-Jan-1994
ST6 22131 AZORES 94	S	U	-3	4	06	N		20-Jan-1994
22132 FFS 9/95	S	U	-3	4	06	N		20-Jan-1994
ST-3 22133 FFS 6/95	S MALE	U	-3	4	06	N		20-Jan-1994
ST3 22134 KAME 8/95	S	U	-3	4	06	N		20-Jan-1994
ST4 24191 IN OFFICE KAMEHAME 8/96 HAWK	S	U	-3	4	06	N		20-Jan-1994
24192	S	U	-3	4	06	N		30-Aug-1995
24193	S	U	-3	4	06	N		30-Aug-1995
24194	S	U	-3	4	06	N		30-Aug-1995
24195	S	U	-3	4	06	N		30-Aug-1995
24196	S	U	-3	4	06	N		30-Aug-1995
24197	S	U	-3	4	06	N		30-Aug-1995
24198	S	U	-3	4	06	N		30-Aug-1995
~~25688 FL 8/95~~	S	U	-3	4	06	N		30-Aug-1995
25689 FL 8/95	S	U	-3	4	06	N		25-Aug-1995
25690 FL 8/95	S	U	-3	4	06	N		25-Aug-1995
25691 FL 8/95	S	U	-3	4	06	N		25-Aug-1995
25692 ROSE 10/95	S	U	-3	4	06	N		25-Aug-1995
25693 ROSE 10/95	S	U	-3	4	06	N		25-Aug-1995
25694 ROSE 10/95	S	U	-3	4	06	N		25-Aug-1995
ST14 25695 IN OFFICE	S	U	-3	4	06	N		25-Aug-1995

8/96 HAWKSBILL
KAMEHAME

22127 FL 8/96
22129 FL 8/96
22128 FL 8/96
~~25688 FL 8/96~~
25689 FL 8/96

1996 SEASON

FLORIDA STATEWIDE NESTING BEACH SURVEY DATA

Florida Marine Research Institute

Florida Department of Environmental Protection

DATA SUMMARY DATE: 1 August 1997

COUNTY	SURVEY LENGTH (KM)	*C. caretta* NEST	*C. caretta* FALSE CRAWL	*C. mydas* NEST	*C. mydas* FALSE CRAWL	*D. coriacea* NEST	*D. coriacea* FALSE CRAWL
EAST COAST							
Nassau	18.2	105	37	3	0	0	0
Duval	23.0	69	63	0	0	0	0
St. John's	65.9	204	109	10	9	0	0
Flagler	30.6	227	100	18	3	0	0
Volusia	79.2	1,889	1,425	98	88	0	1
Brevard	105.2	28,742	27,256	1,351	1,468	16	3
Indian River	19.5	3,645	3,391	97	105	0	0
St. Lucie	34.4	6,197	5,664	130	145	18	6
Martin	35.4	9,304	11,402	300	766	75	31
Palm Beach	54.2	15,284	12,543	864	807	94	24
Broward	42.5	2,902	3,235	130	188	2	0
Dade	37.6	448	517	12	13	0	0
Monroe	49.6	300	415	48	64	0	0
EAST TOTALS	595.3	69,316	66,157	3,061	3,656	205	65
WEST COAST							
Collier	53.5	1,148	1,263	4	2	0	0
Lee	63.2	686	899	0	1	0	0
Charlotte	21.3	1,000	832	0	0	0	0
Sarasota	53.8	3,064	2,602	1	0	0	0
Manatee	21.7	303	326	0	0	0	0
Hillsborough	5.2	37	79	0	0	0	0
Pinellas	49.1	223	144	0	0	0	0
Franklin	82.2	364	276	0	0	0	0
Gulf	54.8	247	229	6	2	0	0
Bay	67.0	115	125	0	0	0	0
Walton	46.8	48	17	5	1	0	0
Okaloosa	39.0	41	33	14	12	0	0
Santa Rosa	11.2	14	11	1	0	0	0
Escambia	58.8	62	83	4	5	0	0
WEST TOTALS	627.6	7,352	6,919	35	23	0	0
STATE TOTALS	1222.9	76,668	73,076	3,096	3,679	205	65

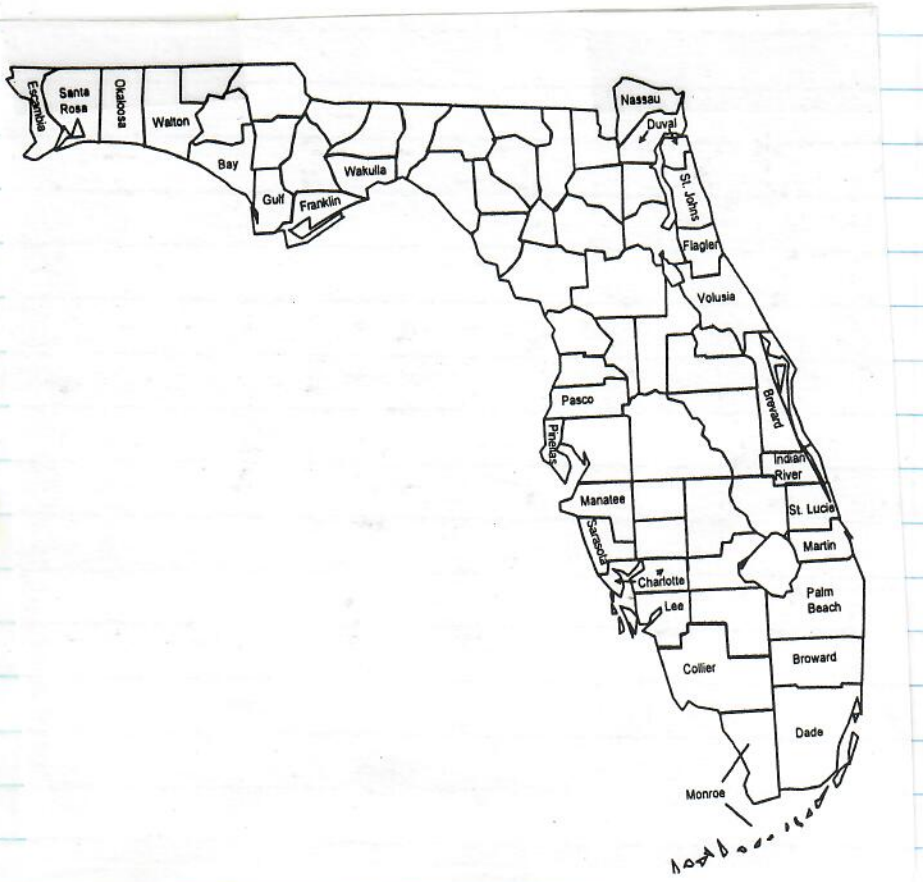
see p 108

1989 - 1996 FLORIDA INDEX NESTING BEACH SURVEY DATA

Florida Marine Research Institute
Florida Department of Environmental Protection

YEAR	*C. caretta* NEST	*C. caretta* FALSE CRAWL	*C. mydas* NEST	*C. mydas* FALSE CRAWL	*D. coriacea* NEST	*D. coriacea* FALSE CRAWL
1989*	39,172	37,245	466	525	44	17
1990	51,413	46,665	1747	1504	30	16
1991	53,899	49,694	397	429	69	16
1992	48,875	40,515	1988	2103	63	10
1993	42,689	38,289	272	262	48	10
1994	52,283	46,898	2,804	2,626	81	16
1995	59,379	52,928	359	385	85	23
1996	54,559	50942	2138	2781	76	26

*Does not include Juno Beach Zones J&K or J.U. Lloyd SRA Zone E



120

Date: Wed, 12 Jun 1996 13:28:41 -0500 (EST)
From: "Mosier, Andrea" <MOSIER_A@harpo.dep.state.fl.us>
To: GBALAZS@honlab.nmfs.hawaii.edu
Cc: BASFMRI@AOL.COM
Subject: Re: Nesting Data -Reply

FLORIDA

Hello George,
Here are the most current numbers that we have for nesting in Florida:

1993:
CC Nest: 55,821 (1108.8 km)
CM Nest: 435 (400.2 km)

1994:
CC Nest: 71,754 (1141.7 km)
CM Nest: 3797 (407.2 km)

1995:
CC Nest: 80,295 (1109 km)
CM Nest: 564 (394 km)

The 1995 data are still coming in and being edited so it is likely that these numbers will be modified.
Also please be aware that the km surveyed for CM are calculated using the definition of Survey Effort as defined in the "Sea Turtle Nesting Activity in the State of Florida, 1979 - 1992" (Meylan et al., 1995, pg. 2), that is;
the number of kilometers of beach regularly surveyed in Volusia, Brevard, Indian River, St. Lucie, Martin, Palm Beach, Broward, and Dade counties. The number of nests still accounts for all CM nests in the state of Florida regardless of county. (If this information is confusing you may want to discuss it with Barbara. With green turtles nesting all over the State now it gets a little confusing to all of us)!
Hope this information is helpful. Let me know if there is anything else you need.

Andrea

Date: Tue, 11 Feb 1997 15:49:12 -0500 (EST)
From: "Mosier, Andrea" <MOSIER_A@harpo.dep.state.fl.us>
To: GBALAZS@honlab.nmfs.hawaii.edu
Subject: nesting data reply

George,
I have to forward your request over to Blair Witherington, he is the Index Nesting Beach data person... I recall sending you StateWide Nesting Beach data as well last June - did you want that again? Blair is with Barbara down in Florida Bay this week, but he will be back in the office next Monday - will that be soon enough? Please let me know if you need the Statewide data and I will send everything to you ASAP.
See you at the Symposium?
Andrea

Florida

1996

Schroeder, B. A., L. M. Ehrhart, and G. H. Balazs.
1996. Post-nesting movements of Florida green turtles: Preliminary results from satellite telemetry. Proceedings of the 15th Annual Symposium on Sea Turtle Biology and Conservation. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-SEFSC-387:289.

POST-NESTING MOVEMENTS OF FLORIDA GREEN TURTLES: PRELIMINARY RESULTS FROM SATELLITE TELEMETRY

Barbara A. Schroeder[1], Llewellyn M. Ehrhart[2], George H. Balazs[3]

[1]Florida Department of Environmental Protection, Florida Marine Research Institute, 19100 SE Federal Highway, Tequesta, Florida 33469 USA

[2]University of Central Florida, Department of Biological Sciences, P.O. Box 25000, Orlando, Florida 32816 USA

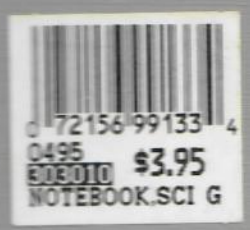
[3]National Marine Fisheries Service, Southwest Fisheries Science Center, Honolulu Laboratory, 2570 Dole Street, Honolulu, Hawaii 96822 USA

Studies of the green turtle population that nests in Florida have focused almost exclusively on aspects involving nests and hatchlings, including basic reproductive parameters such as remigration intervals, nest site fidelity, and the number of clutches per female per season. Only a few hundred nesting Florida green turtles have been tagged using traditional flipper tags. No recaptures away from the Florida nesting beaches have ever been reported. The principal objective of our study was to collect information on the migratory pathways and resident foraging habitats of the adult Florida green turtle population. This information is critical to identifying and protecting marine habitats that are essential for the recovery of this species.

Telonics ST-3, back-pack designed transmitters linked to the Argos satellite system were used. Transmitters were attached to three Florida green turtles nesting at the Archie Carr National Wildlife Refuge in southern Brevard County, Florida, during July 1994. Two of the three transmitters yielded data that provided insight into post-nesting movements. After departing the vicinity of the nesting beach, both turtles made very similar and directed movements southward along the east Florida coastline, turning westward as they approached the Florida Keys, and continuing along the Keys to the west. One individual remained for at least 50 days just offshore the lower Florida Keys, until the last transmission was received in late October. The second turtle continued west stopping near the Marquesas Keys, approximately 40km west of Key West. She remained in this area for at least 10 days after which no further location data were received. There was no evidence that either turtle made any stopovers as they travelled from the nesting area to the Florida Keys. We offer a working hypothesis that Florida green turtles make use of the extensive seagrass meadows and coral reefs in the Florida Keys as resident foraging habitat. We plan to continue this research and augment our sample size during the 1995 nesting season.

hectogram	(hg)	3.527 ounces
kilogram	(kg)	2.2046 pounds
quintal		220.46 pounds
metric ton		1.1 tons

centiliter	0.27 fluidrams
deciliter	0.338 fluidounces
liter	0.21 pints
decaliter	1.057 quarts
	2.64 gallons


0 72156 99133 4
0495
$3.95
NOTEBOOK.SCI G