

0031984

From: [Thayer Broili](#)
To: [Mike Murray](#)
Cc: [Britta Muiznieks](#)
Subject: Fw: late turtle nests
Date: 01/06/2012 09:08 AM

Mike,
I sent your request to Randy as an example of our interface with the public. He took the opportunity to give his opinion on turtle monitoring/data analysis and I thought you'd be interested in it.
Britta,
You may want to run this by Matthew Godfrey.


Thayer Broili
Chief of Resource Management
Cape Hatteras National Seashore
Phone 252-473-2111 ext.137
Fax 252-473-2595

----- Forwarded by Thayer Broili/CAHA/NPS on 01/06/2012 08:48 AM -----

**William
Swilling/CAHA/NPS**

To Thayer Broili/CAHA/NPS
cc

01/05/2012 03:34 PM

Subject Re: Fw: late turtle nests 

We have data and it should be analyzed in a way that we can make a determination of which nests we monitor after a certain date. You can get a little crazy with the statistics using covariate models with nest date and sand temperature or simply plot nest hatch dates and fit a bell curve to it. Actually look at the data. Any nest outside of 2.5 standard deviations is, from a statistics perspective, considered an outlier. Outliers are typically ignored due to the extreme nature of the value. However, we could look at the subset of outliers for a variety of factors relating to hatching success.

It seems we collect the data but then don't know what the hell to do with it other than report basic descriptive information. We could use the data to say that nests laid after a certain date have reasonably no chance of hatching or if they do the hatchlings have no chance of surviving, so why keep a section of beach closed for zero return. Besides, natural selection is working against late season nesters. If we protect them then we are promoting a bunch of stupid turtles.

Randy Swilling
Natural Resource Program Manager
Cape Hatteras National Seashore
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Cell: 406-640-2754
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"If it looks like a duck and quacks like a duck, we have at least to consider the possibility that we have a small aquatic bird of the family Anatidae on our hands."

▼ Thayer Broili/CAHA/NPS

**Thayer
Broili/CAHA/NPS**

To William Swilling/CAHA/NPS@NPS
cc

01/05/2012 08:35 AM

Subject Fw: late turtle nests

fyi. This is an example of the connection that we have to the public. We can chat about this later.

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----- Forwarded by Thayer Broili/CAHA/NPS on 01/05/2012 08:34 AM -----

**Mike
Murray/CAHA/NPS**

To Eric Frey/CAHA/NPS@NPS, Britta
Muiznieks/CAHA/NPS@NPS

01/04/2012 04:24 PM

cc Darrell Echols/CAHA/NPS@NPS, Thayer
Broili/CAHA/NPS@NPS, Cyndy Holda/CAHA/NPS@NPS

Subject late turtle nests

Eric or Britta,

There is quite a bit of interest in NPS management of the late season turtle nests. Questions we are receiving include the following:

- How is viability determined? Was a temperature probe used? Do you have sand temperature statistics from the nearby area?
- Was there a temperature logger placed in the nest north of 34? If so will temperatures be made public? If not, why not?
- What was the water and air temperature when hatchlings from nest at ramp 38 were released? Had these hatchlings started their way to surface or were they still in nest chamber? Were the 15 hatchlings held in tanks to be released later in the year? *Commenter says:* "My records show the inshore sea water temperature on 11/28/2011 at 53 degrees....which is certain death."

- *Commenter states:* Matthew Godfrey wrote in mid-October 2010 email (paraphrased): Egg development will cease below constant 25 C (77 F) degrees. In a few laboratory experiments of fluctuating temps, they survived 18-19 C (64-66 F). These were brief periods of cold. Temperatures at egg depth in nests is usually warmer this time of year than at the surface. In mid-October of 2010 hatchlings emerged from a nest north of Oregon Inlet after a cold snap. *Commenter asserts:* This was an excellent opportunity for research on our beaches. It is extremely rare that a nest hatches if laid after the beginning of Sept. *Question:* What do our records show for nests hatching after Nov. 1st?

Please draft concise responses to the above questions by COB on Thursday, January 12. It would be good to consult with Matthew Godfrey about your responses, so that he knows of the level of interest.

Thank you,

Mike Murray
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