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To: [CAHA Britta](#)
Cc: [CAHA Michelle Baker](#); [CACA Darrell Echols x151](#)
Subject: Fw: Responses to questions
Date: 01/28/2009 01:41 PM

FYI

Sent from my BlackBerry Wireless Handheld

----- Original Message -----

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 Sent: 01/28/2009 08:17 AM EST
 To: Larry Hardham <hardhead@embarqmail.com>
 Cc: <allend@coastalnet.com>; <bobeakes@aginet.com>; <cahabusinessallies@embarqmail.com>;
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 Subject: Responses to questions

LARRY

David R. forwarded to me yesterday Sandy McPherson's (sp?) responses to at least some of the key questions you and David identified last Committee meeting. The formatting is a bit funky because it is a copy of an email.

I am ccing the NR subcommittee too.

PAT

>

> 1. That old (1991) Recovery Plan requests of all Federal and State
 > agencies in the Southeast to do ³temperature transects on representative
 > beaches throughout the Southeast². How many transects have been done and
 > where? If none have been done why not?

>

> In the case of recovery action 218 in the former recovery plan from
 > 1991, numerous studies have been conducted on sand temperatures on
 > nesting beaches throughout the Southeast including ones conducted
 at
 > the following locations:

> 1) Kill Devil Hills, NC
 > 2) Nags Head, NC
 > 3) Bodie Island, NC
 > 4) Hatteras Island, NC
 > 5) Ocracoke Island, NC
 > 6) North Core Banks, NC
 > 7) South Core Banks, NC
 > 8) Shackleford Banks, NC
 > 9) Bogue Banks, NC
 > 10) Bear Island, NC
 > 11) Onslow Beach, NC
 > 12) Masonboro Island, NC
 > 13) Bald Head Island, NC
 > 14) Holden Beach, NC
 > 15) Cape Romain, SC
 > 16) Wassaw NWR, GA
 > 17) New Smyrna Beach, FL
 > 18) Melbourne Beach, FL
 > 19) St. Lucie Nuclear Power Plant, FL
 > 20) Hutchinson Island (South), FL
 > 21) Hobe Sound, FL
 > 22) Juno Beach, FL
 > 23) Boca Raton, FL
 > 24) Keewaydin Island, FL
 > 25) Sanibel Island, FL
 > 26) Venice Beach (South), FL
 > 27) Venice Beach (Central), FL
 > 28) Nokomis Beach Park, Casey Key, FL
 > 29) Casey Key (Central), FL
 > 30) Casey Key (North), FL
 > 31) Turtle Beach, Siesta Key, FL
 > 32) Siesta Key (Central), FL
 > 33) Lido Key, FL
 > 34) Longboat Key (South), FL
 > 35) Longboat Key (Central), FL
 > 36) Longboat Key (North), FL
 > 37) St. George Island, FL
 > 38) Cape San Blas, FL
 > 39) Panama City, FL
 > 40) Bon Secour National Wildlife Refuge, AL
 > 41) Dauphin Island, AL

>

> 2. There is no request for transects in the new draft plan why not?

>

> The Recovery Team believes it is important to assess available data
 > to develop scientifically based protocols for nest management.
 > Therefore, the current 2008 Recovery Plan for the Northwest
 Atlantic

> Population of the Loggerhead Sea Turtle includes the following
> recovery action:
>
> 6111. Evaluate the effects of nest management activities on nest
> productivity, hatchling fitness, and sex ratios and develop
> scientifically
> based standardized protocols for nest management.
>
> The effects of nest management activities (e.g., nest
> relocation, nest screening) and natural factors (e.g.,
nest
> washovers) on nest productivity, hatchling fitness, and
sex
> ratios should be evaluated. Tidal inundation can diminish
> hatching success depending on frequency, duration, and
> developmental stage of embryos. The extent to which eggs
> can tolerate tidal inundation should be better measured to
> enable development of guidelines for nest management
> relative to tidal threats. Similarly, the impacts of nest
> relocation under varying scenarios should be evaluated to
> determine whether nest relocation might be an appropriate
> management tool. Resource agencies should support
research
> to evaluate the impacts of nest management activities and
> natural factors on nests and hatchlings.
>
> The effects of nest screening and caging on hatchling
> navigation and homing behavior should be evaluated as
well.
> Irwin et al. (2004) found that galvanized wire mesh cages
> measurably alter the inclination angle and intensity of
the
> magnetic field beneath them, but that the magnitude of
field
> distortions decreased with distance below the cage. One
> hypothesis is that hatchlings imprint on magnetic features
> of the natal beach and use them as cues in homing to their
> natal beaches as adults. If such magnetic imprinting
> occurs, then the use of wire screens and cages poses a
> potential risk of disrupting magnetic navigation.
>
> Based on the findings of research, recommendations for
nest
> management should be developed.
>
> 3. The number one listed 'objective' in the new draft recovery plan
for
> the Loggerhead sea turtle is: 'Ensure the number of nests in each
recovery
> unit is increasing and this increase corresponds to an increase in the
> number of nesting females.' How do you do this when the policies used at
> CHNS have resulted in a loss of 46% (either entirely lost or hatched
under
> 20% of eggs) of nests laid in the seven years between 2000 and 2006.
>
> The purposes of the Endangered Species Act are 'to provide a means
> whereby the ecosystems upon which endangered species and threatened
> species depend may be conserved, to provide a program for the
> conservation of such endangered species and threatened species, and
> to take such steps as may be appropriate to achieve the purposes of
> the [Act].'² Recovery is the process by which the decline of an
> endangered or threatened species is arrested and threats are
removed
> or reduced, ensuring the long-term survival of the species in the
> wild. At that point the species is recovered and protection of the
> ESA is no longer necessary.
>
> Therefore, the goal of a recovery plan, like the 2008 recovery plan
> for the Northwest Atlantic loggerhead sea turtle, is to reduce the
> threats affecting a species in the wild so that the species might
> recover and become self-sustaining, and thus not require
significant
> human manipulation, such as nest relocation. The 2008 recovery
plan
> identifies numerous threats affecting the species' ability to
survive
> in the wild and actions that should be undertaken to reduce or
> eliminate those threats.
>
> The recovery team has identified two sets of recovery criteria:
> demographic criteria and listing factor criteria. The demographic
> criteria identify trends and numbers of nests and nesting females,
> trends in abundance on foraging grounds, and trends in strandings
as
> targets by which progress toward recovery can be measured. The
> listing factor criteria identify reduction or elimination of
threats
> to the species as targets by which recovery can be measured. The
> recovery team does not believe the use of hatching success rate as
a
> target for species recovery is appropriate. As stated by Carthy et
> al. 2003, 'Female loggerheads nest at various distances from the
> water and at various sites along the beach. This behavior results
in
> the exposure of clutches to a variety of incubation environments
and
> helps avoid complete loss of reproductive effort if some of the
> incubation environments preclude development. By concentrating
> clutches on one area of beach (e.g., low beach areas because of
> armoring or development, or high beach areas because of
conservation

> activities), anthropogenic influences often reduce the variety of
> incubation environments.² They also stated, ³Because the
> characteristics of hatchlings vary with incubation environments, a
> scattered nesting pattern also increases the variation of hatchling
> characteristics. This may ensure that at all times at least some
> hatchlings have characteristics that are appropriate for survival,
> when the exact characteristics that are best suited for survival
vary
> unpredictably over space and time (Foley 1998). Human-related
> activities that reduce the variety of incubation environments
reduce
> the variety of hatchling characteristics produced. If the specific
> characteristics produced by the limited incubation environments do
> not enhance survival (compared to other possible characteristics),
> then the overall survival rate of hatchlings may be less than it
> would have been had the full spectrum of incubation environments
and,
> consequently, the full spectrum of hatchlings characteristics been
> maintained.²
>
> Carthy, R.R., A.M. Foley, and Y. Matsuzawa. 2003. Incubation
> environment of loggerhead turtle nests: effects on hatching
> success and hatchling characteristics. Pages 144-153 in Bolten,
> A.B. and B.E. Witherington (editors). Loggerhead Sea Turtles.
> Smithsonian Books, Washington D.C.
>
> Foley, A.M. 1998. The nesting ecology of the loggerhead turtle (
> Caretta caretta) in the Ten Thousand Islands, Florida.
> Unpublished Ph.D. dissertation. University of South Florida,
> Tampa, Florida. 164 pages.
>
> It is important to remember that sea turtles survived a long time
> without human manipulation of their nests. They have employed a
> nesting strategy that has allowed them to successfully perpetuate
> themselves. Sea turtles only became threatened when human
activities
> affected them directly by killing or harming them or indirectly by
> degrading their habitats. Therefore, we need to address the
threats
> affecting them in the wild so that they might recover and become
> self-sustaining.
>
> 4. What is the time frame for recovery of Loggerhead, Green and
> Leatherback sea turtles?
>
> See the recovery plans for the recovery criteria for these three
> species at <http://www.nmfs.noaa.gov/pr/recovery/plans.htm#turtles>.
>
>