

From: [Michelle Baker](#)
To: [Mike Murray](#)
Cc: [Britta Muiznieks](#)
Subject: Re: Turtle info confirmation
Date: 11/10/2009 04:08 PM

Mike,

I received the Dodd 1988 reference and looked through the whole document. Basically it just references a bunch of other studies that all suggest that the average false crawl to nest ratio is about 1:1. See the excerpt below:

"Nesting may be aborted from human disturbance, improper beach substrate characteristics such as may occur on artificially restored beaches (Raymond 1984b), improper temperature cues (Stoneburner and Richardson 1981), or other factors known only to the turtle. Raymond (1984b) reported that from 46% to 49% of emergences resulted in false crawls...on nonrestored beaches. Talbery et al. (1980) stated that 532 of 1290 (40.5%) emergences between 1972 and 1976 were false crawls...Andre and West (1981) reported 71% of emergences resulted in false crawls, while Crouse (1984a) reported that about half of the emergences resulted in nests....Lund (1986) only noted 10.5% false crawls on a protected beach in Florida...Limpus (1985) stated that loggerheads in Queensland (Australia) decide the suitability of the nesting beach prior to emergence, and that there were no false crawls; unsuccessful nesting attempts were attributed in all cases to a specific disturbance."

Ultimately what this means is that different beaches typically report different false crawl to nest ratios and that it varies over time. What Dodd 1988 does NOT do is set a limit of acceptability for the ratio. It does show that having more than a 1:1 false crawl to nest ratio may be a-typical, but it does not say that this is unacceptable, or even that it is completely the result of disturbance. Therefore, while our BO performance measure may have derived from this citation, it does not particularly help us in defining our Desired Future Conditions.

There is a more recent study from 2006 that reports that in Florida, "undisturbed <loggerhead> turtles complete approximately half of their nesting attempts. This study took data from the Florida Wildlife Commission Index Beach Program, which includes several beaches in the state. It does not state whether any of the beaches included allow ORVs and/or night driving. The reference for this study is:

Witherington B, Herren R, Bresette M (2006) *Caretta caretta* - loggerhead sea turtle. In: Meylan PA (ed) *Biology and Conservation of Florida Turtles*. Chelonian Research Foundation, Lunenburg, Mass., p 74-89

I hope that this helps, but I am not sure if it does. I think that it is safe to say that researchers do not know enough about nest site selection to confidently determine what percentage of false crawls are the result of human disturbance. That being said, it may be the only reasonable measure that we can put on ourselves to try and work with.

Thanks ,

Michelle

▼ Mike Murray/CAHA/NPS

**Mike
Murray/CAHA/NPS**

To Michelle Baker/CAHA/NPS@NPS
cc Britta Muiznieks/CAHA/NPS@NPS

11/09/2009 03:42 PM

Subject Turtle info confirmation

Michelle,

Have you had any luck confirming the applicability of "Dodd, 1988" the reference we cite in our draft Desired Future Conditions for sea turtles having a Ratio of false crawls to nests of 1:1. We got the references from the Interim Strategy BO and wanted to get a copy of the study to see what the actual context was (e.g., was it ORVs? pedestrians? etc. and is "Dodd, 1988" reasonably applicable to our situation?).

We need to confirm one way or another, so we can finalize the "Source" for the 1:1 target in our Desired Future Conditions. We currently having the following language for the "Source":

From Dodd, 1988

Comment: This is the reference cited in the USFWS BO. Michelle Baker-Bogardus will check reference to see if it is applicable.

Thanks,

Mike Murray
Superintendent
Cape Hatteras NS/ Wright Brothers NMem/ Ft. Raleigh NHS
(w) 252-473-2111, ext. 148
(c) 252-216-5520
fax 252-473-2595

CONFIDENTIALITY NOTICE

This message is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure.