

2 26 09 Reg Neg comment

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PART 1 of 2

These are the Walker Golder reports used at the Feb3 Reg Neg. I took out (C&P) and my comments are in blue. Cyndy Holda got them posted in NPS PEPC for Reg Neg.

- [Reference Material Discussed - Barbee 1994](#) (2.2 MB, PDF file)
- [Reference Material Discussed - Collazo et al. 1995 - part 1 of 3](#) (4.9 MB, PDF file)
- [Reference Material Discussed - Collazo et al. 1995 - part 2 of 3](#) (4.3 MB, PDF file)
- [Reference Material Discussed - Collazo et al. 1995 - part 3 of 3](#) (4.2 MB, PDF file)

My observations & comment is in Blue

The Red text is from the text and important

From Collazo study, piping plovers 93-94;

Through our observations of incubating adults and adults tending chicks, we found that piping plovers are only rarely disturbed by encounters with vehicles, planes or humans on foot. More consequential disturbances were caused by interactions with natural predators and competitors.

By reading NPS plover '08 reports there is high incidence of plover bothering plover

At this present level of park use, park closures would likely have minimal effect on piping plover reproductive success.

Does this mean they aren't necessary?

Storms in the early part of the breeding season cause breeding losses and delays, and high temperatures, especially late in the breeding season, impose heat stress that may indirectly cause chick mortality. For these reasons, productivity goals set in the recovery plan (1.5 fledged chicks/pair/year), established from studies of more northern populations, are probably unrealistic for North Carolina.

Continue vegetation removal at Cape Point along the south shore of the brackish pond. To delay the regrowth of vegetation in these treated areas, it may be beneficial to use raking machinery after disking to prevent vegetative growth from cuttings. Growth of vegetation in other piping plover foraging and nesting areas of CAHA should be monitored; additional areas may need to be maintained. Preservation of interior wet and mud flats on CAHA is critical; otherwise piping plovers may only find suitable foraging habitat along the ocean intertidal zone where human disturbance is a problem. (6) At present, beach closures are unnecessary and are not likely to favorably impact breeding piping plovers on the islands. (7) Piping plover population numbers and reproductive success must be consistently monitored so that reliable population trends can be tracked as a means to determine how the NC population is maintained.

Seasonal numbers, distribution and population dynamics of shorebirds on the Outer Banks of North Carolina. .Chapters I and II Surveys were conducted twice per month by vehicle.

This is a twice a month drive on the beach

Red Knots; .Most Red Knots were seen at North Core Banks (65% of total) and Ocracoke Island (28% of total). Compared to other ISS sites, the Outer Banks ranked last in regional importance to this species

Sanderlings

The capture of Sanderlings was described in detail earlier (Chapter 1). All birds were fitted with an aluminum U.S. Fish and Wildlife Service leg band and a series of either four (1992) or three (1993) color bands arranged in a unique combination. The color bands were U.V. stable PVC bands Color band seams were melted together to reduce the possibility of band loss.

How do you melt plastic on a birds leg??

Breeding colonial waterbird studies on the Outer Banks of North Carolina.

Barbee from inside Collazo;

Different human activities had different effects on shorebird behavior. Faster, erratic events such as running pets and children, seemed to upset birds more than slower, regular events such as people walking, or slow moving vehicles. This was very similar to Burger's (1986) findings in New York. **Along North Carolina's outer Banks, many shorebirds seemingly ignored stationary humans and stationary vehicles on the beach, often foraging within a few feet of sunbathers and parked vehicles.**

To assure that important sites where nesting birds are successful and where management is possible, we recommend that ORV traffic be allowed in such key colony sites as Cape Point, Hatteras Inlet, to drive down vegetation.

I note that a common wording, management = predator control/removal. Plover on plover attack/intimidation is rampant in CAHA, should plovers be managed more?

I get the impression, when reading these studies that the authors would like to write something like;

“when plovers were brooding their eggs, and the adults reacted to disturbance, the eggs were cowering deep into the nest and showed no signs of fleeing behavior (running away flying, or broken wing display. The eggs remained defensive refusing to give any ground.”

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Tarr CALO 2008

<http://parkplanning.nps.gov/document.cfm?parkID=358&projectId=10641&documentID=25865>

We found that disturbance has a negative effect on site use by shorebirds, all birds, and Black-bellied Plovers.

[Why are Black bellied plovers singled out](#)

Wildlife managers seek to understand disturbance so that they can balance the costs of human disturbance to wildlife with the benefits that recreation provides in educating the public, generating support for conservation, and increasing awareness of conservation issues (Cole and Knight 1991, Gill 2007, Sutherland 2007)

Disturbance can have physiological effects such as elevated energy expenditure, elevated hormone levels, and other responses. Fleeing responses in wildlife are known to increase heart rate, cardiac output, and blood sugar (Gabrielsen and Smith 1995).

[This must be very hard to study, since handling the bird alone would put measurements off the charts](#)

We believe that our counts provided good estimates of true bird abundance in segments because most segments were relatively narrow, we were able to see all portions of the beach, and the movement of birds in response to the ATV aided identification and counting.

[Flushing birds with an ATV aids counting yeah right](#)

[We removed flyovers from this analysis because we suspected that the detectability of birds in the air was less than that of birds on the ground or in the surf and that the removal of flyover detections would, therefore, decrease the heterogeneity associated with our indices](#)

[So counting & identifying from airplanes doesn't work, who knew](#)

In general, the numbers of people and vehicles on South Core Banks' ocean beach increased throughout the fall, and after 6 September visitor abundance corresponded closely with vehicle abundance

[this here is brilliant. It says there were very few to no pedestrians](#)

Plot locations were not randomly selected because placement was restricted by sea turtle nest sites and **it was only practical to establish closures adjacent to vehicle access ramps**. Early in the season we used closures that were established primarily to protect sea turtle nests, but later in the season, as sea turtle nests hatched or failed, we established closures for the exclusive use of our study. **This lack of randomization in our selection of experimental units disqualifies our design as a true experiment** (Ott and Longnecker 2001), but it did not preclude our ability to conduct an experimental

manipulation and make inferences about the effects of a controlled variable. Our experimental vehicle disturbance treatment involved driving an ATV on a variable, winding route through the impact plot at speeds of 15 to 20 mph every 10min during the sampling period. **Drivers made an effort to approach and flush all birds in the plot**

We attempted to simulate high levels of beach traffic based on an assessment of traffic levels conducted during a pilot field season. Responses to vehicle disturbance varied by species and group. **Vehicle disturbance had a significant negative effect on the overall number of birds using experimental plots**. Our results indicate that vehicle disturbance influences the distribution, abundance, and behavior of shorebirds on ocean beach habitats at migratory stopover sites. **The introduction of vehicle disturbance to ocean beach segments decreased the numbers of all birds and shorebirds in experimental plots**, decreased their relative use of the wet sand microhabitat, and increased their use of the swash zone.

No kidding, if you chase all the birds off an area of beach, it is a negative effect. This study shows JOYRIDING for harassment, on the beach, is wrong. I could have rendered that for no cost.

It wouldn't be because ATVs ran all around the turtle nests going 15-20mph.

Here is the experiment, drive an ATV inside turtle enclosures at 15-20mph aiming to scare every bird inside the enclosure. **This simulates high levels of beach traffic, my ass.** This only shows that flushing every bird with willful intent is wrong. They fail to understand that **fishermen use ATVs/ORVs to go to a destination, not run all over the beach in a haphazard manner chasing birds.** Some of these turtle nests failed, I wonder why. Did haphazard misuse of ATVs inside turtle enclosures have any cause/effect on the turtle nest failures?

Why didn't they do an experiment of actual beach use, IE: drive next to the dune or along the high tide line in a careful manner going to a destination, not driving all over the place purposely scaring birds.

A common challenge when designing field experiments is to choose a treatment level that can be standardized and is heavy enough to test hypotheses while still being similar to actual levels in the system of interest.

The challenge is doing one that reflects real conditions

We were **unable to simulate vehicle traffic patterns** from unrestricted areas because they are irregular, and it was important that our treatment be standardized among treatment plots. Actual traffic levels on the National Seashore consist of a variety of vehicle types (ATV, recreational vehicle, pickup truck etc.) **driven at variable frequencies and speeds, primarily in the dry sand. Our treatment was consistent, frequent, spanned all beach microhabitats, and almost always resulted in birds flushing.** Our findings identify a disturbance level at which we know disturbance influences shorebirds' utilization of ocean beach habitat but it is not an assessment of the effects of actual traffic levels.

In other words, they purposely designed an experiment that doesn't reflect real use. If you drive an ATV with the intent to flush every bird, every bird will flush, no kidding. Real beach users don't abuse the resource, they don't intend, from the start, to flush every bird, on their route to a destination.