

**From:** [Susan Cameron](#)  
**To:** 'Mike Murray'  
**Cc:** [David Allen](#); [Patrick Field](#)  
**Subject:** RE: red knot data  
**Date:** 01/23/2009 01:48 PM  
**Attachments:** [spring2008reknnccomments.xls](#)

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Hi Mike,

We were trying to get the northern half of the coast surveyed in a relatively short window, so unfortunately I did not take the time to circle back to gps flocks. The lat/longs provided are simply the center of larger areas covered. I did take some notes on rough locations, which should help (added to table in red). Also, I did not take notes on vehicles, but I don't recall seeing many on the beach that morning or near red knot flocks. I have no idea how many of these birds were inside/outside of closures.

Please remind folks that this was a single flight so additional surveys (e.g. ISS, Christmas bird counts, etc.), anecdotal observations from biologists/bird watchers of knots and other shorebirds, and habitat needs should be considered. For example, our single day flight did not detect knots at the very south end of Ocracoke, but we know this area is extremely important. I've heard several reports from biologists and bird watchers in recent years of flocks of 500-1000 birds at this site in the spring. I do have some additional data from winter/spring 2006 (ground counts) and 2007 (aerial survey) if you think it will help, but locations are even less specific than what I provided from 2008. You may find this to be the case with ISS and Christmas bird count data as well. I think the most important thing is to protect some areas (inlet and ocean beaches) for non-breeding shorebirds based on what we know now and allow room for adjustments if future data warrants changes.

Hope this helps. Thanks!

Best,  
 Sue Cameron  
 North Carolina Wildlife Resources Commission  
 Waterbird Biologist  
 253 White Oak Bluff Rd.  
 Stella, NC 28582  
 910-325-3602  
[camerons@coastalnet.com](mailto:camerons@coastalnet.com)

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

From: Mike Murray@nps.gov [mailto:Mike\_Murray@nps.gov]  
 Sent: Friday, January 23, 2009 11:09 AM  
 To: Susan Cameron  
 Cc: David Allen; pfield@cbuilding.org  
 Subject: Re: red knot data

Thanks again Sue. I'll have NPS staff plot the lat/long coordinates on maps to help the subcommittee "visualize" the locations where the birds were observed. I have a couple of questions:

1) For the three affirmative observations in CAHA: Ocracoke (not sure what part of Ocracoke), south of South Beach, and South Beach. Do you recall if you observed any ORVs in the areas when and where the birds were observed? For example, in May 2008, if the birds were observed near South Point Ocracoke, the area was closed to ORVs due to prenesting/breeding closures. Also, at that time, the eastern half of South Beach (from approx. 1.6 miles east of Ramp 49 to Ramp 45) was closed to ORVs. Just trying to figure out if the birds were seen in ORV or non-ORV areas, which will help us plan timing and locations of potential non-breeding closures.

2) The document mentions that the single lat/long point is estimated from the center of the area. Would you have a ball-park estimate of how far either side of the GPS point the majority of the activity was occurring? For example, would it be reasonable to estimate 1/4 mile either side; 1/2 mile, etc. Just trying to get a feel how big an area had a heavy concentration of birds, again so we can try to plan accordingly.

Thanks in advance for any additional information you can provide.

Mike Murray  
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"Susan Cameron"		
<camerons@coastalnet.com>		To
01/22/2009 03:12 PM	"Mike Murray"	
	<Mike_Murray@nps.gov>	cc
	"David Allen"	
	<allend@coastalnet.com>	Subject

red knot data

Hi Mike,  
I've attached the red knot data from NC flights in late May (northern ½ covered by NCWRC and southern ½ covered by Audubon). As I mentioned, NJDFW - Endangered/Non-game Species Program coordinated flights along the east coast in an effort to identify areas red knots are using and to better understand population numbers and trends. In response to Larry's request for an explanation of how red knots are identified from the air, first it's important to note that we fly extremely low (~150-200 ft.) and we fly two hours either side of high tide so that knots are concentrated and easier to detect. Red knots are identified from the air by size (fairly large shorebird) and color (birds are fairly dark and reddish this time of year and really stand out on the beach). Also, red knots are typically found in dense feeding flocks, again helping with identification. Lastly, we took some photos to confirm id and estimates of flock size. Let me know if you have additional questions.

Best,  
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(See attached file: spring2008reknnc.xls)

0076366

Date	5/21/2008		
Survey time	0800-1130		
Tide	near high and falling		
Area surveyed	<b>NC northern coast: Onslow Beach - Nags Head (covered Bird Shoals and Clam Shoals, but covered Browns Island, Cedar Island or Currituck)</b>		
Observers	Sue Cameron and Alex Houston		
<b>Location</b>	<b>Count</b>	<b>Long (est. from map - center of larger)</b>	<b>Comments</b>
Onslow Beach	23	34.537, -77.323	ground count by Cmp Lejeune biologists
Browns Island	-		could not survey b/c flight restrictions
Bear Island	0		23 during ground count later that day @ 1430
Bogue Banks - Emerald Isle	4	34.649, -77.078	
Bogue Banks - Pine Knoll Shores	20	34.694, -76.809	
Bird Shoals	0		
CLNS - Shackleford Banks	0		
CLNS - South Core Banks	105	34.747, -76.422	
CLNS - Middle Core Banks	50	34.866, -76.301	
CLNS - North Core Banks (south end)	19	34.892, -76.263	
CLNS - North Core Banks (north end)	243	35.038, -76.076	
Cedar Island	-		could not survey b/c flight restrictions
			89 along the southern half (flock of 49 on ocean beach just north of Ocracoke Village, flock of 40 just north of that), 25 along the middle (in two small flocks in center) and 80 along the northern half (most in large group maybe a mile south of inlet and a few at inlet)
CHNS - Ocracoke	194	35.135, -75.896	
CHNS - Hatteras Isl. (south of South Beach)	90	35.219, -75.661	west of South Beach and past Frisco (my guess would be pretty close to ramp 49)
Clam Shoals	0		
CHNS - Hatteras Isl. (South Beach)	222	35.232, -75.552	most in large continuous flock
Pea Island	0		
CHNS - Bodie Island to Nags Head	0		
Total	970		
<b>Red Knot Survey May 20, 2008 - southern coast</b>			
Weather: Sunny and windy, becoming partly cloudy with thunderstorms forming; 75 degrees F, SW wind 15-20 with gusts			
Tide: High (0840), falling			

0076367

Time: 0845 to 1310			
Observer: Walker Golder			
<b>Location</b>	<b>Flock Size</b>	<b>Latitude</b>	<b>Longitude</b>
North end of Wrightsville Beach	24	34.241674	-77.769732
North end of Wrightsville Beach	12	34.241157	-77.77142
South end of Figure 8 Island	1	34.244953	-77.767946
Rich Inlet Shoals	22	34.299567	-77.716578
Rich Inlet Shoals	35	34.293723	-77.71164
Hutaff Island	20	34.313808	-77.695264
Lea Island	14	34.331576	-77.675038
Masonboro Island	14	34.130401	-77.846433
Carolina Beach	0	34.041494	-77.887158
Kure Beach	0	33.997404	-77.905563
Ft. Fisher	0	33.958544	-77.922903
Bald Head Island (east beach)	25	33.881916	-77.954731
Cape Fear to SC Line	0		
Total	167		

