

BIRD SIGHTINGS IN THE CAROLINAS ASSOCIATED WITH HURRICANE HUGO

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During the latter half of September 1989, one of the strongest hurricanes ever recorded roared through the West Indies and headed for the United States. Rather than swinging in an arc through the western West Indies and up the Florida coast, as is often expected, Hurricane Hugo tracked a rather straight northwesterly course toward the coast of Georgia and South Carolina. Winds intensified to approximately 135 mph, and the storm made a direct course for the central South Carolina coast on 21 September. At midnight on 21-22 September, Hugo made landfall near Isle of Palms, with 130+ mph winds. The storm tracked northwestward toward Sumter, South Carolina, and Gastonia, North Carolina. In fact, the storm's winds were 75-90 mph (still hurricane strength) when it reached the North Carolina border around 6 am on 22 September. The storm arced slightly to the north-northwest, and it departed North Carolina in the general vicinity of the tri-state border with Virginia and Tennessee.

The hurricane was perhaps the most destructive natural disaster to hit the United States in recent decades, in terms of destroying natural habitats and associated wildlife. This report, however, will center on the notable bird records brought to the inland portions of the Carolinas, particularly to lakes, by Hurricane Hugo.

OBSERVATIONS

Somewhat surprisingly, no significant bird records were reported from the coastline. Generally speaking, hurricanes that make landfall produce strong onshore winds on their northeast and east sides; the counterclockwise flow around the eye produces a southeasterly wind flow at the eastern edge of the storm. Thus, there were probably some significant pelagic bird numbers carried to the coastline of South Carolina farther up the coast from Isle of Palms. However, the extremely high winds blew down numerous trees and utility lines and poles across roads, making accessibility to coastal areas nearly impossible for several days. In strong hurricanes with a well-developed eye, such as Hurricane Hugo, large numbers of seabirds are caught within the eye, which is relatively calm compared with the stormy conditions elsewhere. As a hurricane passes onshore, these seabirds are carried inland and begin to drop out of the storm onto lakes or even lawns and parking lots. Other birds presumably fight their way out of the eye and attempt to fly back to the ocean. At any rate, lakes and ponds in the general vicinity of the route of a hurricane often host seabirds or other coastal birds for a day or two following storm passage.

Observers inland found numerous coastal and pelagic species on reservoirs, and a few observers had birds at parking lots and lawns. Those birds at parking lots and lawns were usually the most exhausted ones, and most were reported close to the path of the hurricane. Farther from the path, the birds were less

exhausted and were generally found at reservoirs and other water bodies, usually appearing in good health.

There is no evidence that any of these inland birds were blown from the coast to such locales by the strong winds. Strong winds over the ocean frequently blow shearwaters and other pelagic birds close to shore, where they can be seen by birders at selected sites, such as Cape Hatteras, North Carolina (see Buckley 1973). However, hurricanes that do not come ashore, or those that come ashore in a weakened condition with no eye, seldom produce inland records of seabirds.

This paper includes those species and records that appear to be related to the passage of Hurricane Hugo; it is modelled after the paper by Fussell and Allen-Grimes (1980) detailing observations associated with Hurricane David in 1979. The species are listed in phylogenetic order. Ring-billed Gulls are not included, even though moderate numbers were involved, because they are not unusual on inland lakes in late September. Sooty Shearwaters were reported from one lake; however, this report is considered very unlikely as the species is very rare in the western Atlantic after late June and is seldom reported on fall pelagic trips (Lee and Booth, 1979; Lee, 1986).

CORY'S SHEARWATER: While not previously reported inland in South Carolina, according to Post and Gauthreaux (1989), 50 were observed by Glenn Smith at Lake Murray, S.C., on 23 September. No details were provided.

AUDUBON'S SHEARWATER: Eric Dean and Gene Howe observed one, providing good details, at Quaker Neck Lake at Goldsboro, N.C., on 22 September. This appears to be the first record for the state away from the tidewater zone.

LEACH'S STORM-PETREL: A first inland record for North Carolina was one seen resting on Lake Norman, at the SR 1109 bridge in southern Iredell County, on 23 September. Ricky Davis, Derb Carter, and Harry LeGrand identified it by the sooty (not blackish) coloration, lack of white on the rump at rest, and seemingly largish size. It was flushed with a rock; its characteristic bounding flight was noted, as were the forked tail and very pale upper wing bar.

WHITE-TAILED TROPICBIRD: Allen Bryan observed an immature perched on a stump at Moss Lake near Shelby, N.C., on 22 September. This appears to be the third inland record for the state, with the other two records being of adults seen at Jordan Lake in Chatham County, also following hurricanes (Chat 44:92; Chat 50:22-23).

BLACK-BELLIED PLOVER: Three were at a lake east of Columbia, S.C., on 22 September (Robin Carter, Dennis Forsythe, et al.).

WILLET: One was seen at a lake east of Columbia, S.C., on 22 September by Robin Carter, Dennis Forsythe, and others. A group of nine was at Moss Lake near Shelby, N.C., on 22 September (Bryan).

WHIMBREL: David Wright saw one in flight at Lake Norman on 22 September.

MARBLED GODWIT: One seen at a lake east of Columbia on 22 September (Carter, Forsythe, et al.) was a first inland record for South Carolina. A group of four was found at Moss Lake near Shelby, N.C., on 22 September (Bryan); there are only a few previous state inland records.

POMARINE JAEGER: In North Carolina, Eric Dean and Gene Howe saw two at Quaker Neck Lake at Goldsboro on 22 September. On 23 September, an

immature was seen at Moss Lake near Shelby by Allen Bryan, Ricky Davis, Derb Carter, and Harry LeGrand.

PARASITIC JAEGER: A count of 15 was made by Glenn Smith on 23 September at Lake Murray, S.C. However, as jaeger identification can be difficult, it is likely that this total represented other species, as well.

SOUTH POLAR SKUA: One was reported by Glenn Smith on 23 September at the Lake Murray, S.C., dam. No details were provided. There are no previous inland records for the state, and the species is considered hypothetical (Post and Gauthreaux 1989).

LAUGHING GULL: In South Carolina, 60 were seen east of Columbia on 22 September (Carter, Forsythe, et al.). Several were seen by Carter and others at Lake Murray, S.C., on 23 September. Lex Glover noted 75 at Lake Wateree on 23 September.

In North Carolina, a remarkable 285 were seen at several sites around Shelby, N.C. — including a parking lot — on 22 September (Bryan). A total of 55+ was found by Dean at Goldsboro on 22 September, and one was seen on that date by Mike Tove, Ricky Davis, and Harry LeGrand at Jordan Lake. Also on 22 September, one was noted at Lake Wheeler near Raleigh by Jim Mulholland. At Lake Norman, many were seen on 22 September by David Wright; only one was reported there on 23 September, by Taylor Piephoff.

HERRING GULL: Allen Bryan saw 45 in the Shelby, N.C., area on 22 September. Seven were seen at Lake Norman on that date (D. Wright).

CASPIAN TERN: In South Carolina, three were east of Columbia on 22 September (Carter, Forsythe); eight were at Lake Wateree on 23 September (Lex Glover). Five were at the Lake Murray dam on 23 September, and another was at Billy Dreher Island on this lake on the same date (Smith).

In North Carolina, 16 were counted at Shelby by Bryan on 22 September. Four were at Jordan Lake on that date (Davis, LeGrand, Tove), and one was seen at Fayetteville (Philip Crutchfield). Two were seen at Lake Norman on both 22 September (D. Wright) and 23 September (Piephoff).

ROYAL TERN: In South Carolina, one was east of Columbia on 22 September (Carter, Forsythe). On this date seven were at the Lake Murray dam (Kevin Calhoun). Two were seen by Lex Glover on 23 September at Lake Wateree. An outstanding total of 150 was noted by Glenn Smith at the Lake Murray dam on 23 September; he also saw 30 on this date at Billy Dreher Island at this lake.

In North Carolina, 12 were at Goldsboro on 22 September (Dean). On this date, Bryan saw seven at Shelby, and one was seen at Jordan Lake (Davis, Tove, LeGrand). Two were found at Jordan Lake on 23 September (Paul Saraceni). One was seen at Lake Norman on 22 September (D. Wright) and again on 23 September (Piephoff).

SANDWICH TERN: In South Carolina, where there are apparently no previous inland records (Post and Gauthreaux 1989), one was east of Columbia on 22 September (Carter, Forsythe). Also, on this date 25 were at the Lake Murray dam, as seen by Kevin Calhoun. On 23 September, three were noted by Lex Glover at Lake Wateree, and three were also seen at Lake Murray by Glenn Smith. Surprisingly, there were no reports from North Carolina.

COMMON TERN: In South Carolina, one was east of Columbia on 22 September (Carter, Forsythe).

In North Carolina, 35+ were at Goldsboro on 22 September (Dean). Bryan saw approximately 135 in the Shelby area on 22 September, and on that date 12 were at Jordan Lake (Davis, et al.). Also on 22 September, about 36 were noted at Fayetteville by Philip Crutchfield. On this date at Lake Norman, approximately 34 were seen by David Wright. On 23 September, 25+ were seen at Lake Norman by Taylor Piephoff; David Wright saw about 40 that same day on that lake, presumably involving some duplication with Piephoff's count. One was present at Greenville on 24 September (John Wright).

ARCTIC TERN: A first inland record for the Carolinas was one seen closely in a parking lot at Shelby, N.C., on 22 September by Allen Bryan.

FORSTER'S TERN: In South Carolina, 35 were counted at lakes east of Columbia on 22 September (Carter, Forsythe). On this date, Lex Glover counted 24 in a parking lot at Lugoff, with perhaps twice that number flying around the area. Glover also saw 20 at Lake Wateree on 23 September.

In North Carolina, Bryan saw 200+ in the Shelby area on 22 September; 10 were at Jordan Lake on that date (Davis, et al.). Saraceni counted 16 at Jordan Lake on 23 September. David Wright tallied 12 at Lake Norman on 22 September and three the next day.

LEAST TERN: Four were seen flying over Riverbanks Zoo at Columbia, S.C., on 22 September (Kevin Calhoun). In North Carolina, six were seen in a parking lot at Shelby on 22 September by Robert Ruiz.

BRIDLED TERN: In North Carolina, Allen Bryan saw one in a parking lot at Shelby on 22 September. Taylor Piephoff saw two, an adult and an immature, on 23 September at Lake Norman. The species has previously been seen inland in North Carolina at Lake Waccamaw following the passage of Hurricane Diana in 1984 (LeGrand 1985). None were reported from South Carolina.

SOOTY TERN: In South Carolina, two were observed by Glenn Smith at Lake Murray on 23 September.

In North Carolina, an immature was seen at the Goldsboro water treatment plant on 22 September (Eric Dean). One was noted at Shelby on 22 September (Bryan). Two adults and one immature were seen by LeGrand, Davis, Tove, and others at Jordan Lake on 22 September; and Davis saw one at Falls Lake in Durham County on that date.

BLACK TERN: In North Carolina on 22 September, three were at Goldsboro (Dean), nine were at Shelby (Bryan), 10 were at Jordan Lake (Davis, et al.), and one was at Lake Norman (D. Wright). Five were seen at Lake Norman the next day (LeGrand, et al.). Surprisingly, none were reported from South Carolina.

BROWN NODDY: A first inland record for North Carolina was the sighting of a group of three birds at Lake Norman on 23 September by David Wright. He saw the birds flying past him at close range for about 40 seconds. He noted the white cap, brown plumage, and long, pointed tail (never spread to see the wedge shape).

BLACK SKIMMER: In South Carolina, 12 adults were seen at the Lake Wateree dam on 23 September by Lex Glover. In North Carolina, a remarkable total of 27 was counted in the Shelby area by Allen Bryan on 22 September. One was seen and photographed at the base of Cowan's Ford Dam at Lake Norman on 22 September by David Wright.

DISCUSSION

The above totals were just "the tip of the iceberg" at a few of the larger lakes. David Wright indicated that dozens of birds at Lake Norman on 22 September were too distant to be identified. A local citizen whose house is located on the shore of that lake told Ricky Davis and Derb Carter that he saw many dozens of "seagulls", presumably mainly terns, over the lake on 22 September. The same scenario likely occurred at Lake Murray, South Carolina, because it is a very large lake where birds in the middle would be very difficult to identify in calm conditions, much less during high winds or rain.

The identification of some of the terns, mainly Forster's and Commons, probably can be questioned. It seems unlikely that only one Common Tern was identified in South Carolina, and I suspect that some of the Forster's reported in that state were Commons. These species are often difficult to identify even at close range in calm winds; as many terns were one-half mile or more from shorelines of the lakes, it might have been better to let many of the terns go simply as "Common/Forster's".

The somewhat late date in September likely was the reason for the rather few reports of Sooty and Bridled terns inland. These pelagic species are often carried long distances by hurricanes; however, numbers dwindle in the Atlantic after mid-September as the birds move farther to the south (see Lee 1986). Surprisingly few tubenoses were reported, considering their abundance as a group offshore in September. For some unknown reason, the common Wilson's Storm-Petrel is very seldom reported inland; most shearwaters also tend to avoid being carried inland by these storms. These species apparently are able to either avoid being "sucked" into the eye, or are able to escape from the eye before being carried inland.

Some comparison should be made with the records produced by Hurricane David in early September 1979 (Fussell and Allen-Grimes 1979). That storm followed somewhat the same inland path as Hugo, except that it came onshore near Savannah, Georgia, and travelled in a northerly direction over the central part of the Carolinas. That storm was not nearly as strong as Hugo. Relatively few birds were carried inland in David's eye; however, large numbers of seabirds, mainly terns, were blown ashore at points farther up the coast (to the northeast) as far as the North Carolina Outer Banks. It is obvious that the well-defined and large eye of Hugo brought thousands of seabirds inland, where they were spotted at reservoirs and other locales. What is not clear is the number of seabirds simply blown to shore at points up the coast from where Hugo came ashore. There were extremely few observers stationed along the coast because of the dangerous physical conditions present. It should be mentioned, however, that a few birders did spend time along the southern coast of North Carolina immediately following the passage of Hugo and saw no pelagic species. John Fussell (pers. comm.) "birded Bogue Banks on 22 & 23 September; I did not see any pelagic birds". Likewise, Sam Cooper (pers. comm.) stated "no pelagic species observed from Hurricane Hugo at Wrightsville Beach or Ft. Fisher on 21 or 22 Sept". I would surmise that a moderate number of seabirds were indeed blown to the coastline, yet no observers who combed the beaches for dead birds on later dates reported the finding of such species.

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CORRECTION

It has been brought to our attention that the claim of first photographic documentation of Glaucous Gull in South Carolina credited to Laurie & Jenkins (*Chat* 54:64-65) is incorrect. F. Glenn Smith, George McCoy and Lex Glover saw and photographed a Glaucous Gull at Breech Inlet, Isle of Palms, S. C. on 26 March 1983 (*Am. Birds* 38:190; *Chat* 47:79). The photograph was submitted and reviewed by the respective editors of *Regional Reports and Briefs for the Files*, but not published. Laurie and Jenkins are thus credited with the first *published* photographic documentation of Glaucous Gull in South Carolina. We apologize for any inconvenience created by our oversight.—The Editors