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OBSERVATION OF HAILSTORM-CAUSED MORTALITY OF LEAST TERNS
AND PIPING PLOVERS ON THE NIOBRARA RIVER, NEBRASKA

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Hail has been documented to be a cause of mortality to adult Least Terns and Piping Plovers as well as to eggs and young (Boyd 1992, Lingle 1993, Schweitzer and Davis 2000, SD Dept. of Game, Fish and Parks 2005).

While on an airboat survey to document Least Tern (*Sternula antillarum*) and Piping Plover (*Charadrius melodus*) use of a portion of the Niobrara River (from Highway 137 to the Spencer Dam, approximately 40 river miles), the authors observed the remnants of a Least Tern and Piping Plover colony that had been hit by an overnight rainstorm accompanied with large hail. The colony was found on the morning of June 18, 2008, in the southwest corner of Boyd County, Nebraska (UTM 14 northing 480112.1, easting 4739856.9 in Section 30, T33N, R16W). A number of terns and plovers were observed flying over a riverine sandbar and displaying courtship activities. Further investigation of the area to count adults and investigate the possibility of nesting resulted in the discovery of several dead adults. These dead birds showed obvious signs of trauma,

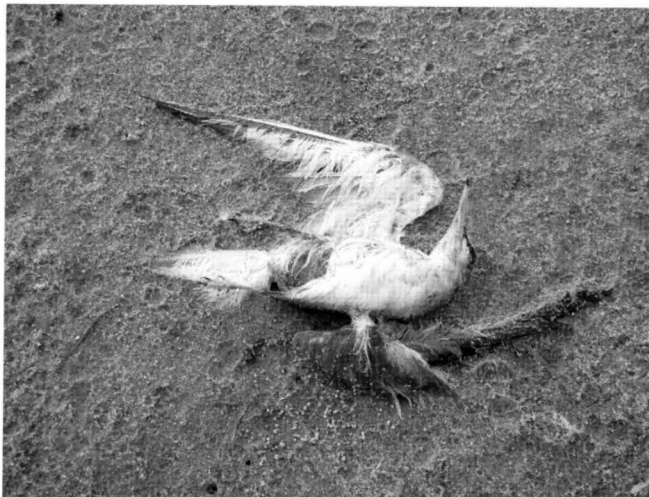


Figure 1. Least Tern. Photo by Mark Peyton.

including broken wings and legs (see Figure 1). The site was surveyed on foot for approximately 20 minutes by the survey team. Dead birds were collected from an area approximately 150 feet in diameter. No evidence of nests, eggs or chicks was observed. It is believed that most, if not all, dead birds on the sandbar were discovered and collected. We observed 7 live adult Least Terns using the area and four dead adults and 8 live adult Piping Plovers and two dead adults.

The surrounding sandbar surface was pockmarked from hail, which fell as a series of storms moved through the area the previous evening. According to the Nebraska Rainfall Assessment and Information Network website, the nearby cities of Spencer and Atkinson, Nebraska, received 0.76 and 1.62 inches of rain, respectively, as the storm system passed through the area. Hail approximately three inches deep was observed on Highway 281 the previous evening as a result of the storm, and hail stones were observed by the survey team in road ditches west of Naper, Nebraska, in the early morning hours of June 18th. Hailstone size at the colony was estimated as large as 1 inch in diameter (see Figure 2 for scale).



Figure 2. Sandbar surface pockmarked by hailstones. Photo by Mark Peyton.

The carcasses of the dead birds were collected and later transferred to the U.S. Fish and Wildlife Service in Grand Island, Nebraska, in accordance with scientific permit requirements. None of the dead birds were banded although two live plovers using the area had green flags on their upper right legs, indicating they were banded on the Missouri River.

Literature Cited

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