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BLACK-BILLED MAGPIE PREDATION ON PIPING PLOVER EGGS—

Low rates of nest success due to predation appears to be a significant factor limiting piping plover (*Charadrius melodus*) populations on the Missouri River (U.S. Fish and Wildlife Service, unpubl. data). There is, however, a deficiency of published data on the specific predators responsible. The Great Plains population of the piping plover is listed as threatened (U.S. Fish and Wildlife Service, 1985, Determination of endangered and threatened status for the piping plover, Federal Register 50:50726-50734). Identification of nest predators is listed as a recovery task for the Great Plains population of the piping plover (U.S. Fish and Wildlife Service, 1988, Great Lakes and Northern Great Plains Piping Plover Recovery Plan, U.S. Fish and Wildlife Service, Twin Cities, MN 160 pp.).

We observed a black-billed magpie (*Pica pica*) taking piping plover eggs on 7 June 1992. A pair of plovers reacted to our presence by exhibiting behavior that suggested they were nesting on a Missouri River sandbar about 0.6 km south of Bismarck, ND. We watched the plovers from a distance, but did not see either plover attend a nest. We observed a magpie thirty minutes later at the location where the plovers had exhibited the nesting behavior. Both plovers were within 4 m of the magpie, running back and forth and calling repeatedly. The magpie appeared to be feeding on something ten minutes later. Both plovers were now about 10 m from the magpie and much less active. After flushing the magpie, we found a freshly cracked piping plover egg, the remains of a second piping plover egg, an unbroken egg tucked at the base of a 0.5-m-tall white sweet clover (*Melilotus alba*), and a piping plover nest bowl with no eggs in it. The concealed location of the intact egg suggested that it had been cached under the outward spreading foliage of the plant. We monitored the site for the next hour, unaware of the location of the magpie. We left the site to survey the remainder of the sandbar whereupon we flushed a magpie from a 2.5-m-tall willow (*Salix* sp.). We resumed monitoring the nest site from a different location. A magpie returned about one hour later, at which point both piping plovers immediately landed within 6 m of the magpie. The magpie immediately cracked open a fourth plover egg. The concealed location of the fourth egg suggested that it too had been cached by the magpie.

We believe that the magpie had discovered the nest prior to our visit and eaten one egg. It then cached the other three eggs a distance of 3.6, 4.9, and 8.5 m from the nest. The sandbar may be especially attractive to magpies because it is heavily utilized by recreationists, some of which may leave food debris.—*Daniel S. Licht and Kevin M. Johnson, U.S. Fish and Wildlife Service, 1500 Capitol Ave., Bismarck, ND 58501*

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