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Status of the Northern River Otter in Nebraska

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STATUS OF THE NORTHERN RIVER OTTER IN NEBRASKA -- Historically, the northern river otter (*Lontra canadensis*) was well established throughout Nebraska (Swenk 1908) and was especially abundant along the Missouri and the Platte rivers (Jones 1964). Unregulated trapping and habitat degradation caused declines throughout most of the northern river otter's historic range (Nilsson 1980, Melquist and Dronkert 1987), including Nebraska. The species was considered extirpated in Nebraska by the early 1900's.

Between 1986 and 1991, 159 northern river otters were reintroduced into Nebraska by the Nebraska Game and Parks Commission (NGPC), with the objective to restore this species to the state. Northern river otters released in Nebraska came from Alaska (n = 62), British Columbia (n = 9), Idaho (n = 11), Louisiana (n = 68), Michigan (n = 1), Ontario (n = 4), and Wisconsin (n = 4). Seven release sites were distributed on five rivers across the state (Fig. 1). The primary releases took place in 1987 (n = 54), 1988 (n = 33), and 1991 (n = 48).

Since the beginning of the reintroduction, the NGPC collected and verified reports of observations of northern river otters and their sign (e.g., tracks, slides, feeding stations) from the public. Reports were considered confirmed if evidence (e.g., pictures, video, signs) existed or if an experienced biologist made the observation. In addition, NGPC staff conducted a bridge survey during the winter of 2000-2001 in search of northern river otter sign.

From August 1986 through July 2001, 57 observations of northern river otters or their sign were confirmed (Fig. 1). Thirteen of these observations, all of signs, were made during the winter bridge survey in 2000-2001. Fifty-three percent of the confirmed sightings occurred within 1 km of the Platte River and 63% within 3 km. Observed northern river otter group sizes ranged from one to eight, with an average of 1.9 northern river otters per observation (SD = 1.6, n = 41).

Each year since 1987, northern river otters were captured accidentally by trappers or found dead and submitted to the NGPC. Between May 1987 and March 2001 a total of 104 northern river otter mortalities were confirmed (Fig. 1). Twenty-one of the northern river otter specimens included in my analysis have been catalogued (skins and complete or partial skeletons) into the collections of the University of Nebraska State Museum (UNSM), Division of Zoology, Lincoln, Nebraska.

Accidental trapping was the main cause of mortality (n = 89, 85.6%). Five northern river otters died due to vehicle-inflicted injuries and 10 were found dead without an identifiable cause. Personal conversations with trappers and fur buyers indicated that possibly a substantial number of accidental captures were never reported. Northern river otters were caught most commonly in body gripping type traps (n = 53, 58.2% of those with known trap type), followed by foothold traps (n = 9, 9.9%) and snares (n = 9, 9.9%). Four northern river otters were killed in fish traps and one drowned in a hoop net. Trap types were not identified for 13 of the

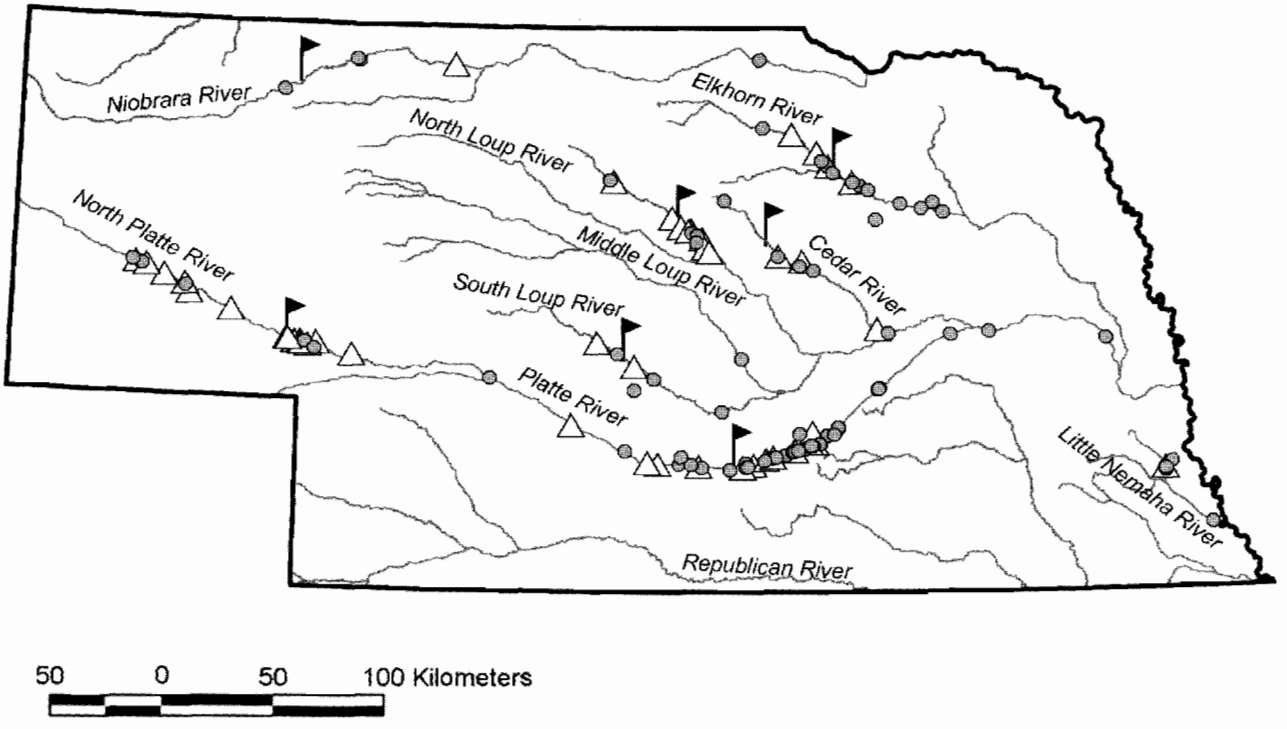

Figure 1. Confirmed observations (triangles) and mortalities (circles) of northern river otters in Nebraska from 1986 to 2001. Flags mark the location of release sites used between 1986 and 1991. Northern river otters released in Nebraska and retrieved in other states are not shown.

accidentally captured animals. Beaver (*Castor canadensis*) trapping caused the highest incidental take of northern river otters (n = 51, 75.0% of those with known trap target species), followed by sets for raccoon (*Procyon lotor*) (n = 9, 13.2%).

Because all released northern river otters were equipped with ear and/or web tags, the NGPC was able to differentiate dead northern river otters that were part of the release program from those that were not. Of the original 159 northern river otters that were released between 1986 and 1991, 37 were among the mortalities. Marked northern river otters that were trapped accidentally or found dead after their release survived on average 522 days after release (min = 4 days, max = 2,146 days, SD = 485.5, n = 37). The average straight-line distance between the site where a northern river otter was trapped and its respective release site was 90.7 km (min = 3.2, max = 767, SD = 701.1, n = 37). The farthest recorded straight-line distance between release site and capture location was 767 km for an animal accidentally captured on the Missouri River, 120 km west of St. Louis, Missouri, 414 days after its release on the South Loup River near Oconto in central Nebraska. Another animal released in Nebraska also was captured in Missouri and one animal was found dead in South Dakota.

The spatial and temporal distribution of northern river otter sightings and mortality reports are indicative of the post-release population growth and range expansion that this species has experienced in Nebraska -- currently, northern river otters are present in six of Nebraska's 13 river basins, including the five river basins that contained release sites. Similar results also have been reported by other states with northern river otter reintroduction projects (Raesly 2001), including in neighboring Missouri, where 845 northern river otters were released between 1982 and 1992 (Gallagher 1999). While the data summarized in my paper provided a qualitative assessment of northern river otter recovery in Nebraska, surveys that will quantify reproductive and mortality rates, genetic diversity, movements, and habitat associations are needed now.

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LITERATURE CITED

Gallagher, E. L. 1999. Monitoring trends in reintroduced river otter populations. M.S. Thesis. University of Missouri, Columbia.

Jones, J. K., Jr. 1964. Distribution and taxonomy of mammals in Nebraska. University of Kansas Publications, Museum of Natural History 16:296-299.

Melquist, W. E., and A. E. Dronkert. 1987. Northern river otters. Pp. 626-641 *in* Wild furbearer management and conservation in North America (Novak, M., J. A. Baker, M. E. Obbard, and B. Malloch, editors). Ontario Ministry of Natural Resources, Toronto, Ontario, Canada.

Nilsson, G. 1980. Northern river otter research workshop. Florida State Museum, 27-29 March 1990, Gainesville, Florida.

Raesly, E. J. 2001. Progress and status of northern river otter reintroduction projects in the United States. Wildlife Society Bulletin 29:856-862.

Swenk, M. H. 1908. A preliminary review of mammals of Nebraska, with synopses. Proceedings of the Nebraska Academy of Sciences 8:61-144.

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