

Habitat Model for Species: Northern Grasshopper Mouse

Onychomys leucogaster

[Distribution Map](#) [Habitat Map](#)

Landcover Category

0 - Comments

[#Reviewer]

Habitat Restrictions

Comments

Kaufman : Add Norton and Osborne Co.

12 - Sandsage Shrubland

Choate and Terry, 1974

Fleharty and Navo, 1983
Moulton et al., 1981
Garner, 1974
Hill and Hibbard, 1943
Hingtgen and Clark, 1984
McCulloch, 1962

2 mice in seral community, 14 in rangeland, 1 in dry tributary - these three habitats are OPTIMAL, 4 in weedy floodplain - a SUBOPTIMAL habitat

ungrazed sand sagebrush a MARGINAL habitat

this habitat, when grazed, should be considered OPTIMAL for this species

17 - Tallgrass Prairie

Keyse, 1967
Pitts et al., 1987

MARGINAL habitat; 1% of captures
1 mouse captured - MARGINAL habitat; authors indicate that the species is rare on the site, species prefers sandy or loose soil in open grassland

18 - Sand Prairie

[#Reviewer]

Choate : Add habitat

20 - Western Wheatgrass Prairie

Deisch et al., 1990

22 - Mixed Prairie

Choate and Fleharty, 1975
Kaufman and Fleharty, 1974

Kaufman and Kaufman, 1989
Kaufman and Kaufman, 1990
Kaufman et al., 1993
Kaufman and Kaufman, 2000
Hingtgen and Clark, 1984

Whitmer, 1966
Welker, 1994b

Bogan, 1966
Smith, 1967

1.7-2.2 mice per 1.1 ha grid per year over 5 years
some sub-habitats appear to be MARGINAL, whereas others are OPTIMAL habitat

grazed limestone breaks prairie
MARGINAL habitat

2-year and 3-5 year-old reclaimed areas MARGINAL and SUBOPTIMAL habitat, respectively

SUBOPTIMAL habitat - (0.1 mice/100 trapnights) in upland pasture

11 mice on ungrazed, 7 on grazed prairie associated with 40-acre prairie dog town

25 - Shortgrass Prairie

Keyse, 1967

Choate and Fleharty, 1975
Moulton et al., 1981
Hill and Hibbard, 1943
Kaufman and Fleharty, 1974
Stapp, 1999
Flake, 1973
Walker, 1978
Fleharty and Channell, 1997

made up 2% of captures in shortgrass Area II (MARGINAL) and 11% in shortgrass Area III (OPTIMAL, because of sandy soils)

SUBOPTIMAL habitat

MARGINAL habitat - (0.9/1000 trapnights)

40 - Non-native Grassland

Welker, 1994b

SUBOPTIMAL habitat - (0.4 mice/100 trapnights) in brome/fencerow

41 - CRP

Welker, 1994a

prefer areas with abundant plant and animal food and that lack vegetation but have sand soils that provide for dusting, some of the plots were SUBOPTIMAL to MARGINAL, dependent on species composition

44 - Cultivated Land

Fleharty and Navo, 1983

most abundant small mammal species in irrigated cornfields

Kaufman and Kaufman, 1989

Kaufman and Kaufman, 1990

Navo and Fleharty, 1983

more captures in wheat & fallow wheat March-May winter wheat to grain sorghum to summer fallow rotation; 7 mice captured - MARGINAL habitat

Kaufman et al., 2000

abundant in wheat fields and fallow wheat fields, less abundant in hayfields and yellow clover; over 85% of mice came from fallow fields and wheat fields and these were located in sandy soil in the Saline river valley

Fleharty and Channell, 1997

Cristoffer, 1984

SUBOPTIMAL habitat - (5.6/1000 trapnights)

MARGINAL habitat - comprised 2% of capture in cropland (stubble phase of winter wheat-grain sorghum-fallow rotation)

Mellott, 1984

comprised 2% of captures in wheat with previous sorghum stubble, 4% of captures in wheat stubble- MARGINAL habitat

Valek, 1985

13 mice captured in dry-land crop land (cycle of wheat stubble, grain sorghum, sorghum stubble, and wheat) - MARGINAL habitat

Welker, 1994b

captured in corn (3.4 mice/100 trapnights), alfalfa (3.3 mice/100 trapnights), soybeans (3.0 mice/100 trapnights), winter wheat (2.1 mice/100 trapnights), grain sorghum (1.9 mice/100 trapnights) - grain sorghum is SUBOPTIMAL habitat, other crops OK

60 - Mixed Prairie-Disturbed Land

Fleharty and Navo, 1983

Kaufman and Kaufman, 1989

Kaufman and Kaufman, 2000

small area of limestone quarry and associated soil spoilbank

Fleharty and Channell, 1997

Whitmer, 1966

MARGINAL habitat - (0.8/1000 trapnights)

71 - Weedy Upland

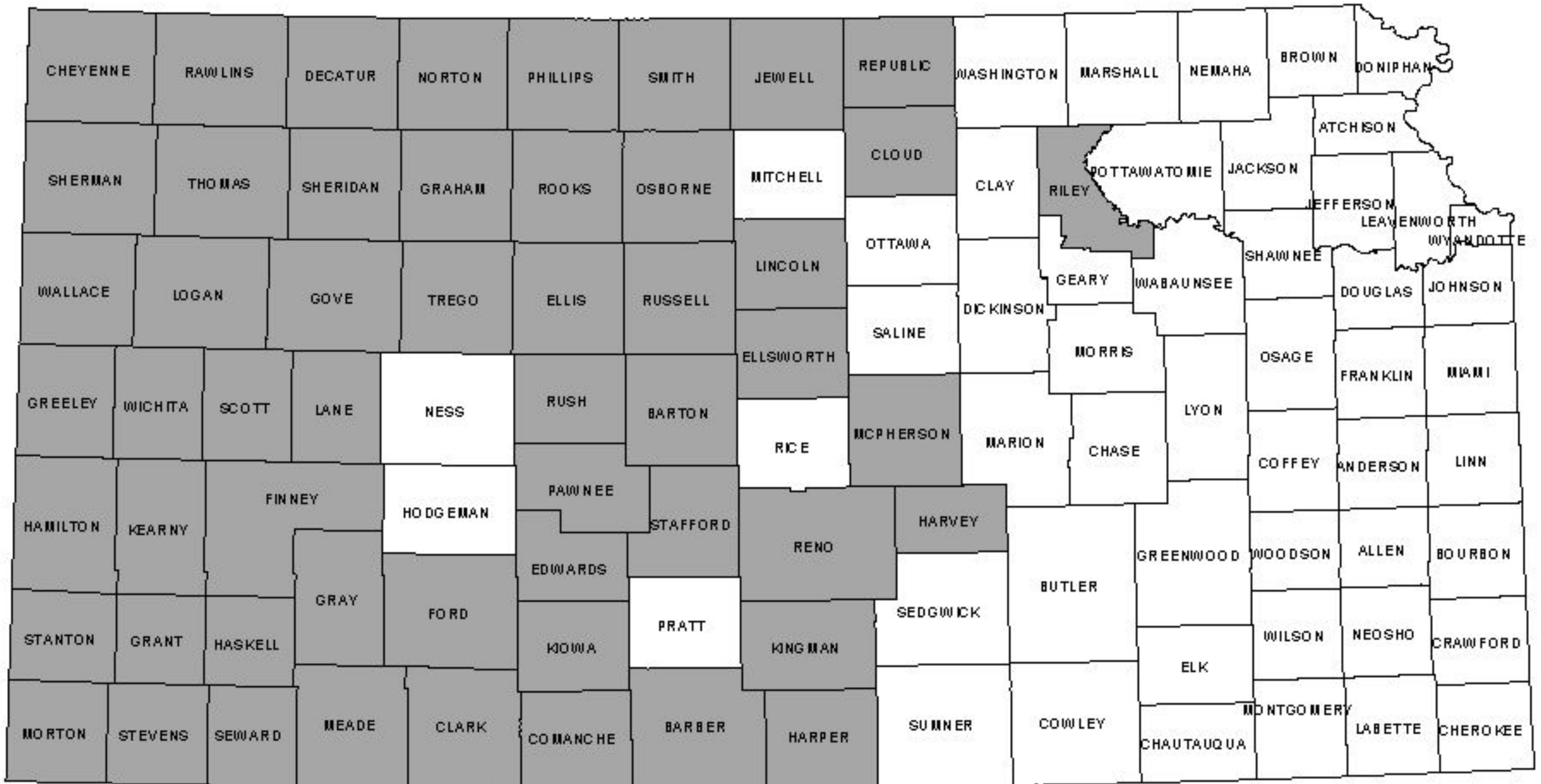
Whitmer, 1966

Reference List

1. Bogan, M. A. 1966. Ecological, density and species differences in small mammals between grazed and non-grazed grasslands. M.S. Thesis. Fort Hays Kansas State College. Hays, Kansas.
2. Choate, J. R. and E. D. Fleharty. 1975. Synopsis of native, recent mammals of Ellis County, Kansas. Occasional Papers, The Museum, Texas Tech University 37:1-80.
3. Choate, J. R. and D. M. Terry. 1974. Observations on habitat preference of *Onychomys leucogaster* (Rodentia: Muridae) on the central Great Plains. Transactions of the Kansas Academy of Science 76:263-265.
4. Cristoffer, C. 1984. Effect of nest box refugia on population sizes of small mammals in fallow cropland. M.S. Thesis. Fort Hays State University. Hays, Kansas.
5. Deisch, M. S., D. W. Uresk, and R. L. Linder. 1990. Effects of prairie dog rodenticides on deer mice in western South Dakota. Great Basin Naturalist 50:347-353.
6. Flake, L. D. 1973. Food habits of four species of rodents on a short-grass prairie in Colorado. Journal of Mammalogy 54:636-647.
7. Fleharty, E. D. and R. Channell. 1997. Historical implications and characteristics of assemblages of small mammals in west-central Kansas. Pp. 155-178 in Life among the muses: Papers in honor of James S. Findley. T. L. Yates, W. L. Gannon, and D. E. Wilson, eds.). Special Publication, The Museum of Southwestern Biology, The University of New Mexico, Albuquerque, New Mexico.
8. Fleharty, E. D. and K. W. Navo. 1983. Irrigated cornfields as habitat for small mammals in the sandsage prairie region of western Kansas. Journal of Mammalogy 64:367-379.
9. Garner, H. W. 1974. Population dynamics, reproduction, and activities of the kangaroo rat, *Dipodomys ordii*, in western Texas. Graduate Studies, Texas Tech University 7:1-28.
10. Hill, J. E. and C. W. Hibbard. 1943. Ecological differentiation between two harvest mice (*Reithrodontomys*) in western Kansas. Journal of Mammalogy 24:22-25.
11. Hingtgen, T. M. and W. R. Clark. 1984. Small mammal recolonization of reclaimed coal surface-mined land in Wyoming. The Journal of Wildlife Management 48:1255-1261.
12. Kaufman, D. W. and E. D. Fleharty. 1974. Habitat selection by nine species of rodents in north-central Kansas. The Southwestern Naturalist 18:443-451.
13. Kaufman, D. W. and G. A. Kaufman. 1989. Nongame wildlife management in central Kansas: implications of small mammal use of fencerows, fields, and prairie. Transactions of the Kansas Academy of Science 92:198-205.
14. Kaufman, D. W. and G. A. Kaufman. 1990. Small mammals of wheat fields and fallow wheat fields in north-central Kansas. Transactions of the Kansas Academy of Science 93:28-37.
15. Kaufman, D. W., G. A. Kaufman, and B. K. Clark. 2000. Small mammals in native and anthropogenic habitats in the Lake Wilson area of north-central Kansas. The Southwestern Naturalist 45:45-60.
16. Kaufman, G. A., D. B. Brillhart, and D. W. Kaufman. 1993. Are deer mice a common prey of coyotes? The Prairie Naturalist 25:295-304.
17. Kaufman, G. A. and D. W. Kaufman. 2000. Temporal and spatial variation in a small mammal community: an example from the mixed-grass prairie in Kansas. Pp. 147-163 in Reflections of a naturalist: papers honoring Professor Eugene D. Fleharty. J. R. Choate, ed.). Fort Hays State University, Hays, Kansas.
18. Keyse, T. B. 1967. Mass emigration of small mammals as shown by continuous removal trapping in northwest Kansas. M.S. Thesis. Fort Hays State University. Hays, Kansas.
19. McCulloch, C. Y., Jr. 1962. Population and range effects of rodents on the sand sagebrush grasslands of western Oklahoma. Oklahoma State University Publication, Arts and Sciences Studies, Biological Studies Series 59 (11):1-112.
20. Mellott, R. S. 1984. Small mammals in field borders of cereal cropfields in an agricultural mosaic in west-central Kansas. M.S. Thesis. Fort Hays State University. Hays, Kansas.
21. Moulton, M. P., J. R. Choate, S. J. Bissell, and R. A. Nicholson. 1981. Associations of small mammals on the central High Plains of eastern Colorado. The Southwestern Naturalist 26:53-57.
22. Navo, K. W. and E. D. Fleharty. 1983. Small mammals of winter wheat and grain sorghum croplands in west-central Kansas. The Prairie Naturalist 15:159-172.
23. Pitts, R. M., M. J. Levalley, and S. Klinger. 1987. Mammals of Fort Riley, Kansas. Transactions of the Kansas Academy of Science 90:75-80.
24. Smith, R. E. 1967. Natural history of the prairie dog in Kansas. Miscellaneous Publications, Museum of Natural History, University of Kansas 49:1-39.
25. Stapp, P. 1999. Size and habitat characteristics of home ranges of northern grasshopper mice (*Onychomys leucogaster*). The Southwestern Naturalist 44:101-105.
26. Valek, S. J. 1985. Small mammals of a dry-land cropland in west-central Kansas. M.S. Thesis. Fort Hays State University. Hays, Kansas.
27. Walker, J. R. 1978. The mammals (exclusive of the bats) of Cheyenne County, Kansas. Transactions of the Kansas Academy of Science 81:185-229.
28. Welker, T. L. 1994a. Small mammal populations in habitats created by the Conservation Reserve Program in western Kansas.

- M.S. Thesis. Fort Hays State University. Hays, Kansas.
29. Welker, T. L. 1994b. Small mammal populations of the principal agricultural crops in north-central Kansas. M.S. Thesis. Fort Hays State University. Hays, Kansas.
 30. Whitmer, E. L. 1966. Some ecological observations on the mammals of east central Russell County, Kansas. M.S. Thesis. Fort Hays State College. Hays, Kansas.

Northern Grasshopper Mouse



Recorded presence
 No records

Recorded distribution include specimen records and observations collected during 1941-2000 from University of Kansas Museum of Natural History, Sternberg Museum of Natural History, a large to mid-sized mammal survey conducted by regional biologists and conservation officers from the Kansas Department of Wildlife and Parks, and personal observations from professional mammalogists.

[Habitats](#)

[Habitat Map](#)

Northern Grasshopper Mouse

