

MAMMALS ONLY

Notations Used

E	Endangered
T	Threatened
SC	Special Concern
N	None (location records maintained by DNR, in most cases)
N (X)	None, and probably extirpated from Minnesota (location records maintained by DNR, in most cases)
--	None (location records <i>not</i> yet maintained by DNR)
*	Change in scientific name accompanies change in status

CHANGE IN SCIENTIFIC NAME NOT ACCOMPANIED BY A CHANGE IN STATUS

<u>Old Scientific Name</u>	<u>New Scientific Name</u>	<u>Status</u>
<i>Cervus elaphus</i>	<i>Cervus canadensis</i>	SC
<i>Felis concolor</i>	<i>Puma concolor</i>	SC
<i>Phenacomys intermedius</i>	<i>Phenacomys ungava</i>	SC
<i>Pipistrellus subflavus</i>	<i>Perimyotis subflavus</i>	SC

CHANGE IN STATUS; STATUS SHEET PROVIDED

<u>Common Name</u>	<u>Scientific Name</u>	<u>Current Status</u>	<u>Proposed Status</u>
Moose	<i>Alces americanus</i>	--	SC
Gray Wolf	<i>Canis lupus</i>	SC	N
Big Brown Bat	<i>Eptesicus fuscus</i>	--	SC
Canada Lynx	<i>Lynx canadensis</i>	--	SC
Little Brown Myotis	<i>Myotis lucifugus</i>	--	SC
Northern Grasshopper Mouse	<i>Onychomys leucogaster</i>	N	SC
Western Harvest Mouse	<i>Reithrodontomys megalotis</i>	N	SC
Richardson's Ground Squirrel	<i>Spermophilus richardsonii</i>	N	SC
Northern Pocket Gopher	<i>Thomomys talpoides</i>	SC	T

EXTRACTED FROM

Proposed Amendment of Minnesota Rules, Chapter 6134: Endangered and Threatened Species
Statement of Need and Reasonableness: August 10, 2012

SPECIES STATUS SHEET

SCIENTIFIC NAME: *Alces americanus*

COMMON NAME: Moose

CURRENT MINNESOTA STATUS: None

PROPOSED MINNESOTA STATUS: Special Concern

BASIS FOR PROPOSED MINNESOTA STATUS: The Moose is the largest member of the deer family, and inhabits lowland boreal forests and brushlands in northern parts of North America, where it feeds on a wide variety of aquatic and terrestrial vegetation. Although Moose were distributed throughout northern Minnesota prior to European settlement, hunting, habitat changes, and other factors reduced the species' range within the state so that by the early 1970s, Moose were restricted to two disjunct populations in the northwestern and northeastern portions of the state, each of which numbered into the thousands into the mid 1980s.

Between 1990 and 2000, the northwestern Minnesota Moose population underwent a substantial decline, and a 2007 Minnesota DNR aerial survey determined that as of that date, fewer than 100 Moose comprised the northwestern population. Aerial surveys currently estimate the northeastern Minnesota population at roughly 4,230 individuals. The northwestern Minnesota Moose population decline occurred in less than a decade. Recent surveys document a slow decline in the northeastern Minnesota Moose population.

Moose are known to be well adapted to cold temperatures, but intolerant of heat. Summer temperatures are believed to limit the species' southern distribution. Warming temperatures have been correlated with the decline of the northwestern Minnesota Moose population, and high temperatures have been correlated with higher mortality observed in the northeastern Minnesota population. For these reasons, climate change is believed to present a significant potential threat to Minnesota's Moose populations within the foreseeable future. Current predictions anticipate a significant increase in temperatures within Minnesota's Moose range. Increased temperatures are likely to increase heat stress and lead to increased mortality within the state's remaining Moose populations. Changes in land ownership and changes in forest management practices within the state's Moose range may be having a significant adverse effect on the quantity and quality of the species' habitat within the state, and particularly on thermal refuges in warmer weather.

Minnesota's northwestern Moose population represents a significant portion of its range in the state and has experienced a dramatic decline in the past decade. The state's northeastern Moose population has not shown as rapid a decline, but is very likely to be dramatically impacted by rising temperatures resulting from climate change. This will likely lead to a marked decline in this population within the foreseeable future. Given these observations and concerns about the future of the state's Moose population, it is needed and reasonable to designate Moose as a species of Special Concern in Minnesota.

SELECTED REFERENCES:

- Hazard, E.B. 1982. The mammals of Minnesota. University of Minnesota Press, Minneapolis, MN.
- Lenarz, M.S. 2007. Minnesota moose harvest. Minnesota Department of Natural Resources.
- Lenarz, M.S. 2012. 2012 Aerial moose survey. Minnesota Department of Natural Resources.
- Lenarz, M.S., M.E. Nelson, M.W. Schrage, A.J. Edwards. 2009. Temperature mediated moose survival in northeastern Minnesota. *Journal of Wildlife Management* 73(4):503-510.
- Murray, D.L., E.W. Cox, W.B. Ballard, H.A. Whitlaw, M.S. Lenarz, T.W. Custer, T. Barnett, and T.K. Fuller. 2006. Pathogens, Nutritional Deficiency, and Climate Influences on a Declining Moose Population. *Wildlife Monographs* 166:1-30.
- Peterson, R.O. 1999. Moose (*Alces alces*). Pages 334-336 in D.E. Wilson and S. Ruff, eds. *The Smithsonian book of North American mammals*. Smithsonian Institution Press, Washington, DC. 750 pp.

SPECIES STATUS SHEET

SCIENTIFIC NAME: *Canis lupus*

COMMON NAME: Gray Wolf

CURRENT MINNESOTA STATUS: Special Concern

PROPOSED MINNESOTA STATUS: None

BASIS FOR PROPOSED MINNESOTA STATUS: Prior to European settlement, the Gray Wolf inhabited most of North America south to at least 20° Latitude. Human persecution, habitat deterioration, and the reduction of prey populations led to the near elimination of wolves from the western U.S. by the 1930s. By the 1960s, only a small number of wolves survived in northeastern Minnesota, although large populations remained in Canada and Alaska. The Gray Wolf was placed on the federal list of endangered and threatened species in 1967, and became fully protected under the federal Endangered Species Act in 1974. Since then, wolves in Minnesota have increased and expanded their range to the point that they were federally delisted in 2012.

In the early 1950s, Minnesota's primary Gray Wolf range encompassed a 12,000 square mi. area in northern Minnesota and contained only 450-700 individuals. As of 2012, the wolf range in Minnesota has expanded to an estimated area of over 27,000 square mi., and the population has grown to an estimated 3,000 wolves. This expansion has increased the number of wolves in agricultural lands and in areas where road and human densities were formerly believed to be too high to sustain wolf populations without considerable conflict with humans. Thus, wolves have demonstrated an ability to adapt to human presence. Livestock depredations in Minnesota increased as wolves expanded their range; however, over the last 10 years as the population and distribution of wolves has stabilized, so have the number of depredations. In anticipation of the federal delisting of gray wolves, the Minnesota legislature passed a wolf management bill in 2000, and the DNR completed a comprehensive wolf management plan in 2001. The plan is designed to protect wolves and monitor their population while giving owners of livestock and domestic pets more protection from wolf depredation. It established a minimum population of 1,600 wolves to ensure long-term survival. The DNR will implement a wolf hunting and trapping season in the fall of 2012.

In much of northern Minnesota, Gray Wolf density is now approximately one per 10 square miles, which is at or near carrying capacity for the species. While prey species before European settlement (e.g., moose, bison, caribou, elk) supported lower wolf densities across more of the state, its principal modern prey (deer) is so abundant that the number of wolves in northern Minnesota is now likely above the pre-settlement population level. Minnesota's population of gray wolves is second only to Alaska among U.S. states and exceeds the federal delisting goal of 1,251-1,400. Population estimates indicate that there has been no significant change in the number or distribution of wolves in Minnesota over the last 10 years, and few suitable areas in the state remain unoccupied. These data indicate that Minnesota's Gray Wolf population has fully recovered, and special concern status is no longer warranted.

SELECTED REFERENCES:

- Erb, J. 2008. Distribution and abundance of wolves in Minnesota, 2007-08. Minnesota Department of Natural Resources, Grand Rapids, Minnesota. 11 pp.
- Fritts, S.H., W.J. Paul, L.D. Mech, and D.P. Scott. 1992. Trends and management of wolf-livestock conflicts in Minnesota. U.S. Fish and Wildlife Service Resource Publication 181, Washington, D.C. 27 pp.
- Fuller, T.K. 1989. Population dynamics of wolves in north-central Minnesota. Wildl. Monogr. No. 105. 41 pp.
- Fuller, T.K., W.E. Berg, G.L. Radde, M.S. Lenarz, and G.B. Joselyn. 1992. A history and current estimate of wolf distribution and numbers in Minnesota. Wildl. Soc. Bull. 20:42-55.
- Harper, E.K., W.J. Paul, and L.D. Mech. 2005. Causes of wolf depredation increase in Minnesota from 1979-1998. Wildlife Society Bulletin 33(3):888-896.
- Mech, L.D. 2001. Managing Minnesota's recovered wolves. Wildlife Society Bulletin 29:70-77.
- Minnesota DNR. 2001. Minnesota Wolf Management Plan. 80pp.
- Paul, W.J. 2000. Wolf depredation on livestock in Minnesota annual update of statistics 1999. U.S. Department of Agriculture, Grand Rapids, Minnesota.
- USFWS. 1992. Recovery plan for the eastern timber wolf. Twin Cities, Minnesota. 73 pp.

EXTRACTED FROM

Proposed Amendment of Minnesota Rules, Chapter 6134: Endangered and Threatened Species
Statement of Need and Reasonableness: August 10, 2012

SPECIES STATUS SHEET

SCIENTIFIC NAME: *Eptesicus fuscus*

COMMON NAME: Big Brown Bat

CURRENT MINNESOTA STATUS: None

PROPOSED MINNESOTA STATUS: Special Concern

BASIS FOR PROPOSED MINNESOTA STATUS: The Big Brown Bat is one of Minnesota's four species of cave-hibernating bats and is distributed widely across North and Central America. It is found throughout Minnesota during summer and winter. Warm season roosts can consist of tree hollows, undersides of bridges, and buildings, including attics, barns, and behind shutters. Winter roosts are mostly located in caves and mines, although the species also regularly hibernates in buildings, cellars, and tunnels. The Big Brown Bat is the second most common bat species found in Minnesota. Based on extensive surveys for bats conducted in the early 1980s and additional information collected by the Minnesota County Biological Survey, over 2,000 individuals are estimated to hibernate in the state's caves and mines. An additional unknown number hibernate in buildings. Secure winter roost sites, where the Big Brown Bat spends nearly half of each year, are critical to the survival of the species.

In February 2006, cave-hibernating bats in New York were found to have an unusual white substance on their muzzles and had lost much of their body fat. In subsequent winters, bats with this "white-nose syndrome" have died in large numbers. In the four years since it was first discovered, white-nose syndrome has spread to caves and mines in 14 eastern and central states and two Canadian provinces. An estimated one million bats have died; mortality in some northeastern bat hibernacula has neared 100%. Despite an intensive research effort, the cause of these deaths remains unknown and a cure remains undiscovered. White-nose syndrome continues to spread west at a rapid rate, and its arrival in Minnesota's bat hibernacula is likely in the very near future. While federal and state agencies are taking steps to slow the spread of white-nose syndrome, its anticipated profound impact on Minnesota's cave-hibernating bats indicates that Special Concern status for the Big Brown Bat is reasonable and needed at this time.

SELECTED REFERENCES:

Hazard, E.B. 1982. The mammals of Minnesota. University of Minnesota Press, Minneapolis, MN.

Kurta, A. and R.H. Baker. 1990. *Eptesicus fuscus*. The American Society of Mammalogists, Mammalian Species No. 356. 10 pp.

Nordquist, G.E. and E.C. Birney. 1985. Distribution and status of bats in Minnesota. Final report submitted to the Nongame Wildlife Program, Minnesota Department of Natural Resources. 64 pp.+

Rysgaard, G.N. 1942. A study of the cave bats of Minnesota with especial reference to the large brown bat, *Eptesicus fuscus fuscus* (Beauvois). Am. Midl. Nat. 28:245-267.

Szymanski, J.A., Runge, M.C., Parkin, M.J., and M. Armstrong. 2009. White-nose syndrome management: report on structured decision making initiative. Department of Interior, U.S. Fish and Wildlife Service, Fort Snelling, MN, USA. 51 pp.

SPECIES STATUS SHEET

SCIENTIFIC NAME: *Lynx canadensis*

COMMON NAME: Canada Lynx

CURRENT MINNESOTA STATUS: None

PROPOSED MINNESOTA STATUS: Special Concern

BASIS FOR PROPOSED MINNESOTA STATUS: The Canada Lynx was designated as a threatened species, including within Minnesota, under the federal Endangered Species Act in April 2000. The species occurs across Canada and Alaska, with the southern range margin extending into the northeast, western Great Lakes, and northern Rockies regions of the United States. It is usually found in association with its primary prey, Snowshoe Hare, which occur in highest densities within younger, regenerating boreal forest patches with a coniferous component. Historically, the number of lynx within Minnesota fluctuated with the well-documented decadal lynx-hare cycle in Canada. Minnesota's lynx population has also been influenced by immigration from the Canadian population.

In Minnesota, the majority of reports of lynx sightings are from the northeastern portion of the state, with occasional reports from the forests of north-central Minnesota. During 2000-2006, 426 reports of lynx observations were received by the DNR; of these, 63 were considered verified. All but seven of the verified reports came from the Arrowhead region of the state. Genetic analyses identified 110 individual lynx in the state during 2002-2008. Ten den sites of radio-collared lynx were found during 2004-2007, confirming reproduction within the state. However, of 33 kittens handled at den sites, only two were documented to survive to reproductive age.

Human-caused mortality of Minnesota's small lynx population is the primary threat to the species. While there is no accurate population estimate for the species within the state, existing models suggest that the population size is at or below 200 animals. In a 2003-2008 radiotelemetry study, over 50% of the cases in which the cause of mortality could be established were attributable to anthropogenic causes. Documented causes include trapping, road-kill, shooting, and train-kill. In addition, all known mortalities of radio-collared kittens are thought to be caused by humans.

Low Snowshoe Hare densities at the landscape scale are also a potential threat to lynx. High hare populations tend to develop where there is adequate understory cover in the form of regenerating conifers, downed trees, and thick brush, which is usually the product of forest management or natural disturbance. However, post-harvest regeneration practices may reduce dense cover required by hare for shelter from predation. The current interest in biofuels harvest may also exacerbate this threat.

Climate change also presents a significant potential threat to Canada Lynx in Minnesota. Current predictions anticipate a significant increase in winter temperatures in the foreseeable future, which are likely to lead to a reduction in snow depths. Bobcats (*Lynx rufus*) tend to displace lynx in areas of lesser snow depth, and this displacement is expected to occur throughout the range of lynx in Minnesota as winter temperatures rise. In light of these existing and anticipated threats, it is needed and reasonable to designate Canada Lynx as a species of Special Concern in Minnesota.

SELECTED REFERENCES:

- DelGiudice, G.D., M. DonCarlos, and J. Erb. 2008. An incidental take plan for Canada Lynx and Minnesota's trapping program. Minnesota Department of Natural Resources. 172 pp.
- Henderson, C. 1977. Minnesota 1977 Canada lynx status report. Report by the Minnesota DNR. 23 pp.
- Moen, R. 2009. Canada lynx in the Great Lakes Region. 2008 Report to Minnesota Department of Natural Resources. NRRI Technical Report No. NRRI/TR-2009-06 Release 1.0. 34 pp.
- Moen, R., G. Niemi, and C.L. Burdett. 2008. Canada lynx in the Great Lakes Region. Final report to USDA Forest Service, USGS, and Minnesota DNR. NRRI Technical Report No. NRRI/TR-2008-14. 52 pp.
- Moen, R., G. Niemi, and C.L. Burdett. 2009. Den sites of radiocollared Canada Lynx in Minnesota 2004-2007. NRRI Technical Report No. NRRI/TR-2009-07. 21 pp.

EXTRACTED FROM

Proposed Amendment of Minnesota Rules, Chapter 6134: Endangered and Threatened Species
Statement of Need and Reasonableness: August 10, 2012

SPECIES STATUS SHEET

SCIENTIFIC NAME: *Myotis lucifugus*

COMMON NAME: Little Brown Myotis

CURRENT MINNESOTA STATUS: None

PROPOSED MINNESOTA STATUS: Special Concern

BASIS FOR PROPOSED MINNESOTA STATUS: The Little Brown Myotis is one of Minnesota's four species of cave-hibernating bats, and the most common of the state's seven bat species. Distributed widely across North and Central America, this bat is also found throughout Minnesota during summer and winter, and comprises the majority of bats found at most roost sites in the state. Warm season roosts can consist of tree hollows, undersides of bridges, and buildings, including attics, barns, and behind shutters. Winter roosts are mostly located in caves, mines, cellars, and tunnels. Due to the limited number of suitable winter roost sites, the Little Brown Myotis congregates in very large numbers during hibernation. Based on extensive surveys for bats conducted in the early 1980s and additional information collected by the Minnesota County Biological Survey, over 15,000 individuals are estimated to hibernate in the state. A more recent study found that the state's largest bat hibernaculum, Soudan Underground Mine, alone supports an estimated wintering population of over 5,000 individuals. Secure winter roost sites, where the Little Brown Myotis spends nearly half of each year, are critical to the survival of the species.

In February 2006, cave-hibernating bats in New York were found to have an unusual white substance on their muzzles and had lost much of their body fat. In subsequent winters, bats with this "white-nose syndrome" have died in large numbers. In the four years since it was first discovered, white-nose syndrome has spread to caves and mines in 14 eastern and central states and two Canadian provinces. An estimated one million bats have died; mortality in some northeastern bat hibernacula has neared 100%. Despite an intensive research effort, the cause of these deaths remains unknown and a cure remains undiscovered. White-nose syndrome continues to spread west at a rapid rate, and its arrival in Minnesota's bat hibernacula is likely in the very near future. While federal and state agencies are taking steps to slow the spread of white-nose syndrome, its anticipated profound impact on Minnesota's cave-hibernating bats indicates that Special Concern status for the Little Brown Myotis is reasonable and needed at this time.

SELECTED REFERENCES:

- Fenton, M.B. and R.M.R. Barclay. 1980. *Myotis lucifugus*. The American Society of Mammalogists, Mammalian Species No. 142. 8 pp.
- Hazard, E.B. 1982. The mammals of Minnesota. University of Minnesota Press, Minneapolis, MN.
- Nordquist, G.E. and E.C. Birney. 1985. Distribution and status of bats in Minnesota. Final report submitted to the Nongame Wildlife Program, Minnesota Department of Natural Resources. 64 pp.+
- Nordquist, G.E., K.A. Lynch, and C.A. Spak. 2006. Timing and Pattern of Bat Activity at Soudan Underground Mine. Final report submitted to the State Wildlife Grants Program, Minnesota Department of Natural Resources. MNDNR Biological Report No. 88. 86 pp.
- Rysgaard, G.N. 1942. A study of the cave bats of Minnesota with especial reference to the large brown bat, *Eptesicus fuscus fuscus* (Beauvois). Am. Midl. Nat. 28:245-267.
- Szymanski, J.A., Runge, M.C., Parkin, M.J., and M. Armstrong. 2009. White-nose syndrome management: report on structured decision making initiative. Department of Interior, U.S. Fish and Wildlife Service, Fort Snelling, MN, USA. 51 pp.

EXTRACTED FROM

Proposed Amendment of Minnesota Rules, Chapter 6134: Endangered and Threatened Species
Statement of Need and Reasonableness: August 10, 2012

SPECIES STATUS SHEET

SCIENTIFIC NAME: *Onychomys leucogaster*

COMMON NAME: Northern Grasshopper Mouse

CURRENT MINNESOTA STATUS: None

PROPOSED MINNESOTA STATUS: Special Concern

BASIS FOR PROPOSED MINNESOTA STATUS: The Northern Grasshopper Mouse is found in south-central Canada and the western and Great Plains regions of the United States. In Minnesota, this species occurs in the western part of the state where it can be locally common, but is never abundant. Unlike other rodents, Northern Grasshopper mice are predators, and therefore have large home ranges. These mice are strongly associated with dry, sparsely-vegetated grasslands that grow on gravelly to sandy soils, and they have been found in the sandy spoil and topsoil piles from sand and gravel quarry excavations.

Destruction of prairie habitat, especially through sand and gravel mining activities, poses the largest threat to the survival of Northern Grasshopper mice in Minnesota. Despite considerable survey effort in recent years, very few new locations of Northern Grasshopper mice have been documented. Due to its limited distribution and abundance in the state, specific habitat requirements, and susceptibility to habitat destruction, it is needed and reasonable to designate the Northern Grasshopper Mouse as a species of Special Concern at this time.

SELECTED REFERENCES:

Bruns Stockrahm, D.M. 1995. Ecology of the northern grasshopper mouse (*Onychomys leucogaster*) and prairie vole (*Microtus ochrogaster*) in Clay County, Minnesota. Final report submitted to the Minnesota DNR. 98 pp.

Harper, E.K., D.E. Welberg Canfield, and D.M Bruns Stockrahm. 1994. Ecology of the northern grasshopper mouse (*Onychomys leucogaster*) in western Minnesota. Final report submitted to the Minnesota DNR. 73 pp.

Riddle, B.R. 1999. Northern grasshopper mouse (*Onychomys leucogaster*). Pages 588-590 in D.E. Wilson and S. Ruff, editors. The Smithsonian book of North American mammals. Smithsonian Institution Press, Washington, DC. 750 pp.

Stockrahm, D.M.B. 1991. Distribution of small mammals in grasslands of western Minnesota with special emphasis on the prairie vole (*Microtus ochrogaster*), the northern grasshopper mouse (*Onychomys leucogaster*), the plains pocket mouse (*Perognathus flavescens*), and the western harvest mouse (*Reithrodontomys megalotis*). Final report submitted to the Minnesota DNR. 53 pp.

SPECIES STATUS SHEET

SCIENTIFIC NAME: *Reithrodontomys megalotis*

COMMON NAME: Western Harvest Mouse

CURRENT MINNESOTA STATUS: None

PROPOSED MINNESOTA STATUS: Special Concern

BASIS FOR PROPOSED MINNESOTA STATUS: The Western Harvest Mouse is distributed throughout much of the central and western United States and is a relatively uncommon inhabitant in southwestern and southeastern Minnesota. This mouse is found in dry prairie and old field habitats such as grasslands, overgrown pastures, fencerows, and unmowed roadsides. Its distribution in the state has been greatly affected by the destruction of grassland habitats through cultivation, and residential and commercial development. Deterioration of habitat quality resulting from encroachment of invasive plant species and subsequent control practices is likely the reason that the Western Harvest Mouse is now absent from areas where it was once abundant. This species now has become increasingly restricted to small, fragmented habitats. For these reasons, it is needed and reasonable to designate the Western Harvest Mouse as a species of Special Concern at this time.

SELECTED REFERENCES:

Hazard, E.B. 1982. The mammals of Minnesota. University of Minnesota Press, Minneapolis, MN.

Stockrahm, D.M.B. 1991. Distribution of small mammals in grasslands of western Minnesota with special emphasis on the prairie vole (*Microtus ochrogaster*), the northern grasshopper mouse (*Onychomys leucogaster*), the plains pocket mouse (*Perognathus flavescens*), and the western harvest mouse (*Reithrodontomys megalotis*). Final report submitted to the Minnesota DNR. 53 pp.

Webster, W.D. 1999. Western harvest mouse (*Reithrodontomys megalotis*). Pages 558-560 in D.E. Wilson and S. Ruff, editors. The Smithsonian book of North American mammals. Smithsonian Institution Press, Washington, DC. 750 pp.

Webster, W.D., and J.K. Jones. 1982. *Reithrodontomys megalotis*. The American Society of Mammalogists, Mammalian Species No. 167. 5 pp.

SPECIES STATUS SHEET

SCIENTIFIC NAME: *Spermophilus richardsonii*

COMMON NAME: Richardson's Ground Squirrel

CURRENT MINNESOTA STATUS: None

PROPOSED MINNESOTA STATUS: Special Concern

BASIS FOR PROPOSED MINNESOTA STATUS: The Richardson's Ground Squirrel occurs in south-central Canada and the northern Great Plains of the United States, including the western edge of Minnesota. This species prefers dry, well-drained soils for burrowing, and open areas with short vegetation and high visibility for detecting predators. It avoids cultivated fields or grasslands with tall vegetation. Richardson's Ground Squirrels form cohesive social groups of related individuals that cooperate in rearing young and alerting others to approaching threats. As with other social ground squirrels, there may be a minimum population size necessary for a self-sustaining colony. Reduction of suitable habitat due to changes in land practices has resulted in the disappearance of known Richardson's Ground Squirrel colonies in western Minnesota. Small, isolated colonies can also be focal points for local predators, increasing their vulnerability to local extirpation. Despite evidence to the contrary, many consider ground squirrels as serious agricultural pests, and human extermination efforts have had significant negative impacts on this species throughout its range. Due to this species' isolated distribution in Minnesota and its vulnerability to local extirpation, it is needed and reasonable to designate the Richardson's Ground Squirrel as a species of Special Concern at this time. This status will highlight the need to gather more field data on the current distribution and abundance of this species in the state.

SELECTED REFERENCES:

- Hafner, D.J., E. Yensen, and G.L. Kirkland, Jr., editors. 1998. North American rodents: status survey and conservation action plan. IUCN/SSC Rodent Specialist Group. 171 pp.
- Hazard, E.B. 1982. The mammals of Minnesota. University of Minnesota Press, Minneapolis, MN.
- Laundre, J.W. and N.K. Appel. 1986. Habitat preferences for burrow sites of Richardson's ground squirrels in southwestern Minnesota. *Prairie Naturalist* 18(4): 235-239.
- Michener, G.R. 1999. Richardson's ground squirrel (*Spermophilus richardsonii*). Pages 429-431 in D.E. Wilson and S. Ruff, editors. *The Smithsonian book of North American mammals*. Smithsonian Institution Press, Washington, DC. 750 pp.
- Minnesota Department of Natural Resources. 2006. Tomorrow's habitat for the wild and rare: An action plan for Minnesota wildlife, comprehensive wildlife conservation strategy. Division of Ecological Services, Minnesota Department of Natural Resources. 297 pp. + appendices.
- Murphy, R. K., D. W. Hasselblad, C. D. Grondahl, J. G. Sidle, R. E. Martin, and D. W. Freed. 2001. Status of the Burrowing Owl in North Dakota. *Journal of Raptor Research* 35:322-330.

SPECIES STATUS SHEET

SCIENTIFIC NAME: *Thomomys talpoides*

COMMON NAME: Northern Pocket Gopher

CURRENT MINNESOTA STATUS: Special Concern

PROPOSED MINNESOTA STATUS: Threatened

BASIS FOR PROPOSED MINNESOTA STATUS: The Northern Pocket Gopher is found in North America from southern British Columbia south through the Sierra Nevada range and east through the plains of Canada, Colorado, eastern Nebraska, South Dakota, North Dakota, and the extreme northwestern corner of Minnesota. In Minnesota, at the eastern edge of its range, the Northern Pocket Gopher has been documented primarily in Kittson County, with one additional occurrence in Marshall County. Because of its restricted distribution in northwest Minnesota and the scarcity of records within this area of the state, the Northern Pocket Gopher was listed as a species of Special Concern in 1984.

Based on trapping records, Northern Pocket Gophers appear to have declined in the state. The major causes of the decline are thought to include habitat loss, persecution by humans, and competition with the more common Plains Pocket Gopher (*Geomys bursarius*). Northern Pocket Gophers occur in a wide range of soil conditions; however, in Minnesota, they are restricted to the heavy soils of the Red River valley. Flooding events in the past decade have submerged known locations of this species. Cultivation destroys underground burrows, so most occurrences are restricted to ditch banks and elevated flood control berms, making them vulnerable to trapping. Compounding this problem is the view of pocket gophers as unwanted pests in agricultural areas because of the mounds of soil they create in fields and pastures. Mounds and runways cause potential damage to livestock and machinery and may lead to reduction of crop yields. Because of this, pocket gophers are controlled by poisoning and trapping, and some counties still carry a bounty of \$0.70 to \$2.00 per pocket gopher. Unfortunately, no distinction is made between the more common Plains Pocket Gopher and the rare Northern Pocket Gopher. In 1993, over 33,000 pocket gophers were turned in for bounties in counties where Northern Pocket Gophers are known to live. There is no record of which species was collected.

Recent survey efforts by the Minnesota DNR County Biological Survey have confirmed the loss of Northern Pocket Gophers from known locations in Minnesota since 1991. Reclassification from Special Concern to Threatened status is needed and reasonable for this species because of its limited distribution in the state, the continuing threat of habitat loss, and the potential for persecution due to its similarity to the Plains Pocket Gopher, which is viewed as a pest species in agricultural areas.

SELECTED REFERENCES:

- Coffin, B. and L. Pfanmuller, editors. 1988. Minnesota's endangered flora and fauna. Univ. of Minnesota Press. Minneapolis. 473 pp.
- MacMahon, J. A. 1999. Northern pocket gopher (*Thomomys talpoides*). Pages 474-477 in D. E. Wilson and S. Ruff, editors. The Smithsonian book of North American mammals. Smithsonian Institution Press, Washington, DC. 750 pp.
- Verts, B. J. and L. N. Carraway. 1999. *Thomomys talpoides*. Mammalian Species 618:1-11.
- Zimmerman, E.G. 1999. Plains Pocket Gopher (*Geomys bursarius*). Pages 485-486 in D.E. Wilson and S. Ruff, editors. The Smithsonian book of North American mammals. Smithsonian Institution Press, Washington, DC. 750 pp.

EXTRACTED FROM

Proposed Amendment of Minnesota Rules, Chapter 6134: Endangered and Threatened Species
Statement of Need and Reasonableness: August 10, 2012