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ANNOTATED CHECKLIST OF THE RECENT MAMMALS OF NEVADA

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Nevada lies at the heart of the intermountain west in North America, and although it mainly occurs within the Basin and Range physiographic province, it also includes a small part of the Sierra Nevada province (Figure 1). Geographically, the Mojave warm desert and aridlands occur in the south (C.H. Merriam's Lower Sonoran Life Zone, 1890), the Great Basin cold desert region occurs in the north (Upper Sonoran Life Zone), and the high Sierra Nevada boreal-montane forest is in the west, with an extensive network of mountain ranges and intervening basins crossing the state (Upper Sonoran, Transition, and Boreal Life Zones). Each of these varied habitats captures unique faunal components and creates overlapping areas where species with very different biogeographic and ecological histories intermingle, adding to the overall mammalian diversity within the state.

Nevada is the subject of one of the most comprehensive and detailed surveys of state mammals, *Mammals of Nevada*, by E.R. Hall (1946). This work was reprinted in 1995 with a new forward by T.E. Lawlor, as well as a section entitled "Species Names and Taxonomic Additions," which updated the taxonomic information, but the original text and other information presented in the original edition remained unchanged. Nonetheless, the *Mammals of Nevada* "has long constituted the standard against which other state surveys of mammals have been measured" (T.E. Lawlor, *Mammals of Nevada*, 1995: xiii).

Although recent publications have included the mammals that occur in Nevada along with treatments of mammals from other states or regions (Cockrum and Petryszyn 1994; Hall 1981; Ingles 1965; Kays and Wilson 2002; Wilson and Ruff 1999; Zeveloff 1988), there has not been a comprehensive taxonomic and distributional update of the Recent mammals that occur in Nevada. The aforementioned works, along with additional references for selected species, serve as the basis for this current checklist. This list will serve an array of people interested in the mammals of Nevada, from professional biologists to students to policy makers.

Orders, families, and genera are arranged phylogenetically, following Baker et al. (2003), and species within each genus are listed alphabetically. We also follow the most recent taxonomic changes incorporated by Baker et al. (2003), and indicate these changes (synonymy) for convenience when comparing this list to previously published works. For most species, we have provided broad ecological descriptors of the habitats in which the species occur. This checklist contains 131 species of Nevada mammals, including both naturally occurring (120) and introduced species (11, identified by an asterisk). Although no Nevada mammals are currently listed as federally "threatened and endangered," the state does contain a number of endemic species and subspecies of mammals, often with restricted ranges, indicating imminent conservation con-

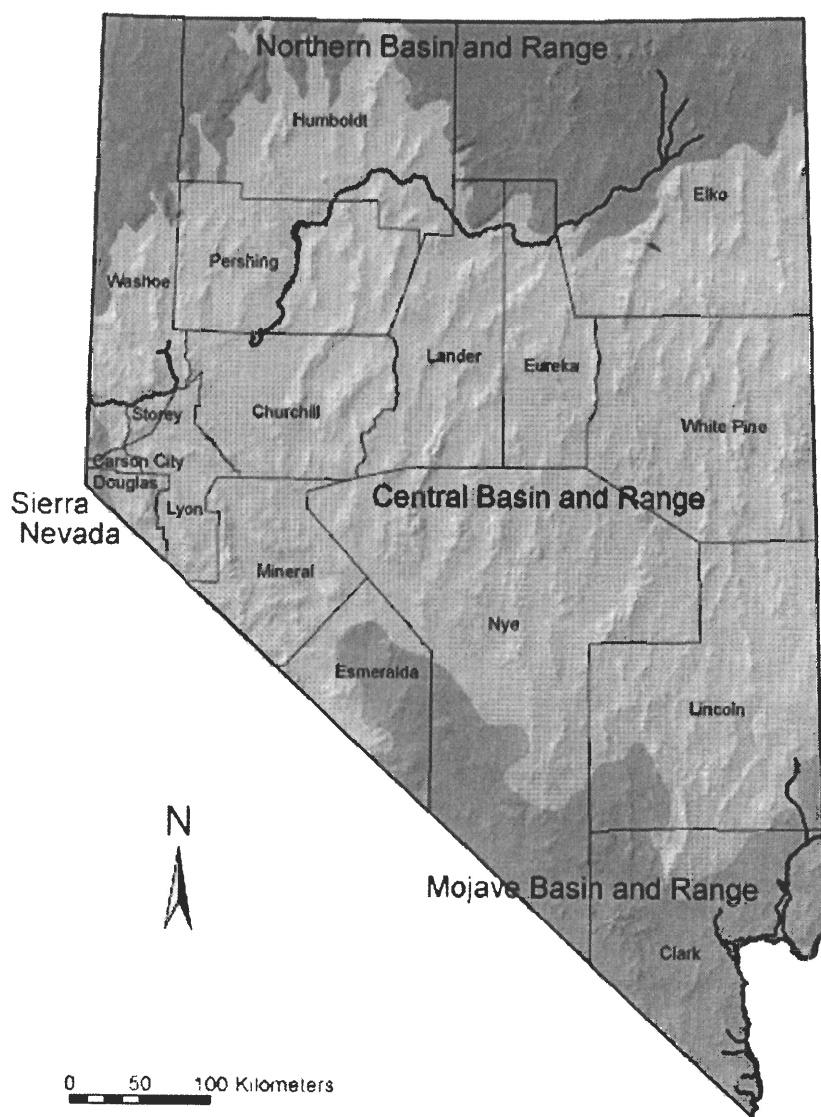


Figure 1. County boundaries, physiographic provinces, and major rivers in Nevada. The rivers (indicated by dark lines) are the Truckee River in the west, the Humboldt River in the north, and the Colorado, Virgin, and Muddy rivers in the south.

cerns. We provide current information on the conservation status and priority ranking for selected species of Nevada mammals (Appendix 1), established by the Nevada Natural Heritage Program (2004).

ORDER INSECTIVORA—INSECTIVORES

Family Soricidae

(Shrews)

Sorex merriami (Merriam's shrew)—Known from sagebrush and mountain brush areas primarily in the western half of the state. Ports and MacAdoo (1986) note the occurrence of the species in Elko and Lincoln counties. *S. m. merriami* Dobson 1890 is in the northernmost part of the state and *S. m. leucogenys* Osgood 1909 is known from the southwest, in Esmeralda County.

Sorex monticolus (dusky or montane shrew)—Occurs in mountain brush and along streams at higher elevations in the high Sierra Nevada in western Nevada and in the Ruby and Independence Mountains in Elko County in the east (Alexander 1996). The subspecies is *S. m. obscurus* Merriam 1890. This subspecies is synonymous with *S. obscurus obscurus* and *S. vagrans monticola*.

Sorex palustris (American water shrew)—Common along mountain streams in the northern two-thirds of the state. The subspecies is *S. p. navigator* (Baird 1858).

Sorex preblei (Preble's shrew)—Known from Washoe County in the northwest (Hoffman and Fisher 1978) and Elko County in the northeast (Ports and George 1990). These recent records considerably extend the overall range of this species southward, suggesting the distribution covers most of northern Nevada. *Sorex preblei* Jackson 1922 is a monotypic species.

Sorex tenellus (Inyo shrew)—Found in the mountains of western Nevada. *S. tenellus* Merriam 1895 is a monotypic species.

Sorex trowbridgii (Trowbridge's shrew)—Known from conifer forests in the Sierra Nevada of extreme western Nevada in Washoe County. The subspecies is *S. t. mariposae* Grinnell 1913.

Sorex vagrans (vagrant shrew)—Occurs near streams or marshy areas in central and western Nevada. The subspecies is *S. v. vagrans* Baird 1858.

Notiosorex crawfordi (Crawford's desert shrew)—Known from desert grasslands in southern Nevada. Kotler (1985) noted the northern extension of the distribution of this species into at least Mineral County. The subspecies is *N. c. crawfordi* (Coues 1877).

Family Talpidae

(Moles)

Scapanus latimanus (broad-footed mole)—Occurs in moist soils along streams and in forests in extreme western Nevada. *S. l. dilatus* True 1894 occurs along the western border north of Douglas County and *S. l. monoensis* Grinnell 1918 occurs at the southern extent of the range.

ORDER CHIROPTERA—BATS

Family Phyllostomidae

(Leaf-nosed Bats)

Macrotus californicus (California leaf-nosed bat)—This colonial, cave-dwelling species occurs in Clark County in the south. *M. californicus* Baird 1858 is monotypic.

Choeronycteris mexicana (Mexican long-tongued bat)—A single record of this very rare species is known from Clark County (Constantine 1987). *Choeronycteris mexicana* Tschudi 1844 is a monotypic species.

Family Vespertilionidae

(Vespertilionid Bats)

Myotis californicus (California myotis)—Known from lower elevations in the deserts of western and southern Nevada. The subspecies is *M. c. stephensi* Dalquest 1900. This subspecies was formerly recognized as *M. c. pallidus*.

Myotis ciliolabrum (western small-footed myotis)—Common and known from numerous localities throughout the state. The subspecies is *M. c. melanorhinus* (Merriam 1886). Recent synonyms for this species are *M. subulatus* and *M. leibii*.

Myotis evotis (long-eared myotis)—A solitary species found in forested mountain areas across the state. The subspecies is *M. e. evotis* (H. Allen 1864) and was recognized formerly as *M. e. chrysonotus*.

Myotis lucifugus (little brown myotis)—Common in the northern half of the state. The subspecies is *M. l. carissima* Thomas 1904.

Myotis thysanodes (fringed myotis)—Occurs in a variety of habitats but only known from a few localities in Nevada. It is expected to occur statewide in suitable habitat. The subspecies is *M. t. thysanodes* Miller 1897.

Myotis velifer (cave myotis)—Uncommon and has been recorded only in extreme southern Nevada (Cockrum 1964). The historic location of this species has recently been relocated in the Lake Mead National Recreation Area in Clark County (J. Williams, pers. comm.). The subspecies is *M. v. brevis* Vaughn 1954.

Myotis volans (long-legged myotis)—Common in a variety of habitats and occurs statewide. The subspecies is *M. v. interior* Miller 1914.

Myotis yumanensis (Yuma myotis)—Found in close association with permanent water sources in the lower arid regions of southern and western Nevada. The subspecies are: *M. y. sociabilis* H.W. Grinnell 1914 in the extreme western and northwestern portions of the state and *M. y. yumanensis* (H. Allen 1864) in the remainder of the range.

Lasiurus blossevillei (western red bat)—An uncommon species known from limited records in southern Nevada and from along the Truckee River in the west. The subspecies is *L. b. teliotis* (Allen 1891).

Lasiurus cinereus (hoary bat)—This solitary species, among the largest bats in North America, may be common throughout much of the state, but occurrences are not well documented. The subspecies is *L. c. cinereus* (Palisot de Beauvois 1796).

Lasiurus xanthinus (western yellow bat)—*Lasiurus xanthinus* was first documented in Nevada in 2001 from riparian habitats in the Moapa Valley in Clark County (O'Farrell et al. 2004). *Lasiurus xanthinus*

(Thomas 1897) is a monotypic species (Baker et al. 1988).

Lasionycteris noctivagans (silver-haired bat)—Occurs statewide and is primarily associated with larger pine tree species, although has been documented at lower elevations (Moapa Valley) during migratory periods (Bradley et al. 1965). *Lasionycteris noctivagans* (LeConte 1831) is a monotypic species.

Pipistrellus hesperus (western pipistrelle)—Common in deserts regions in the southern and western portions of the state and extends to the northwest during seasonal movements, as noted by recent captures in Elko County (Ports and Bradley 1996). The subspecies is *P. h. hesperus* (H. Allen 1864).

Eptesicus fuscus (big brown bat)—Occurs statewide. *Eptesicus f. bernardinus* (Rhoads 1901) occurs in western Nevada, along the Sierra Nevada; and *E. f. pallidus* Young 1908 occurs in the remainder of the state.

Corynorhinus townsendii (Townsend's big-eared bat)—Distributed statewide and often found in caves and mines. The subspecies is *C. t. pallescens* (Miller 1897). This species is placed in the genus *Plecotus* by some authors (see Baker et al. 2003).

Idionycteris phyllotis (Allen's big-eared bat)—A rare species that occurs in various montane forests of southern Nevada. The subspecies is *I. p. hualapaiensis* Tumlison 1993.

Antrozous pallidus (pallid bat)—Common throughout the state. Ports and Bradley (1996) reported a northward extension of the known range of this species into White Pine and Elko counties. *Antrozous pallidus cantwelli* Bailey 1936 occurs in the extreme northwestern corner of the state and *A. p. pallidus* (LeConte 1856) occurs in the western and southern areas of the range.

Euderma maculatum (spotted bat)—Recent records indicate that this species is distributed throughout the low desert regions in the southern and western portions of the state, but has not yet been collected from the central and northeastern areas (Geluso 2000; Kuenzi et al. 1999; Szewczak et al. 1998). *Euderma maculatum* is monotypic (J.A. Allen 1891).

Family Molossidae

(Free-tailed Bats)

Tadarida brasiliensis (Brazilian free-tailed bat)—Known from multiple localities in the desert regions of the state and is most likely non-migratory in southern Nevada. This species is probably found statewide, as evidenced by the recent range extensions into White Pine County in the east, noted by Ports and Bradley (1996). The largest natural roost occurs in White Pine County with an estimated 60,000 individuals during the late summer (J. Williams, pers. comm.). The subspecies is *T. b. mexicana* (Saussure 1860).

Nyctinomops macrotis (big free-tailed bat)—Originally known from only one specimen that lacked specific locality data, additional specimens have since been recorded in fall months in Clark County, though this species is still rare. *Nyctinomops macrotis* (Gray 1839) is a monotypic species.

Eumops perotis (western bonneted bat)—Only one specimen has been recorded from Clark County in southern Nevada. The subspecies is *E. p. californicus* (Merriam 1890).

ORDER PRIMATES—PRIMATES**Family Hominidae**

(Great Apes and Humans)

Homo sapiens (modern man)—Ubiquitous throughout the state; two counties, Clark and Washoe, have populations greater than 200,000 individuals (Hardcastle 2000).

ORDER LAGAMORPHA—LAGOMORPHS**Family Ochodontidae**

(Pikas)

Ochotona princeps (American pika)—Found almost exclusively on talus in alpine areas in Nevada. This species may be in decline with the possibility of recent extirpation of multiple historic populations in the Great Basin (Beever et al. 2003). Five subspecies occur in the state: *O. p. muiri* Grinnell and Storer 1916 in the Sierra Nevada; *O. p. nevadensis* Howell 1919 in the Ruby Mountains; *O. p. schisticeps* (Merriam 1889)

in the Pine Forest Mountains; *O. p. sheltoni* Grinnell 1918 in the White Mountains; and *O. p. tutelata* Hall 1934 in the Desatoya, Shoshone, Toiyabe, Toquima, and Monitor ranges in central Nevada (Smith and Weston 1990).

Family Leporidae

(Hares and Rabbits)

Brachylagus idahoensis (pygmy rabbit)—A small species, typical of dense sagebrush habitat across the northern two-thirds of the state. *Brachylagus idahoensis* (Merriam 1891) is a monotypic species.

Sylvilagus audubonii (desert cottontail)—Known from several localities at lower elevations in the southern portion of the state but the range may be expanding northward. The subspecies is *S. a. arizonae* (Allen 1877).

Sylvilagus nuttallii (mountain cottontail)—Occurs at moderate to higher elevations in dense sage and forested areas. The subspecies are *S. n. nuttallii* (Bachman 1837) in the northwestern corner of the state and *S. n. grangeri* (Allen 1895), which occurs in the remainder of the state exclusive of lower elevations in the south and southwest.

Lepus americanus (snowshoe hare)—Occurs in dense shrub habitat in the Sierra Nevada in the west. This species may also occur to a limited extent in the Jarbidge Mountains in the northeast. The subspecies are *L. a. tahoensis* Orr 1933 in the west and *L. a. bairdii* Hayden 1869 in the northeast.

Lepus californicus (black-tailed jackrabbit)—Abundant and found in a wide variety of habitats throughout the state. The two subspecies are *L. c. deserticola* Mearns 1896, which is found across most of the state with the exception of the northwestern corner, where *L. c. wallawalla* Merriam 1904 occurs.

Lepus townsendii (white-tailed jackrabbit)—Occurs at higher elevations in northeastern Nevada and in the Sierra Nevada in the west. The subspecies is *L. t. townsendii* Bachman 1839.

ORDER RODENTIA – RODENTS**Family Aplodontidae**
(mountain beavers)

Aplodontia rufa (Sewellel or mountain beaver)—Found along mountain streams in the Sierra Nevada in the west. The subspecies is *A. r. californica* (Peters 1864).

Family Sciuridae
(Squirrels)

Neotamias amoenus (yellow-pine chipmunk)—Restricted to Ponderosa (yellow pine) and Jeffrey Pine forests in the north. The subspecies are: *N. a. amoenus* (Allen 1890) in western Washoe County and north-central Elko County; *N. a. celeries* (Hall and Johnson 1940) in the Pine Forest Mountains in Humboldt County; and *N. a. monoensis* (Grinnell and Storer 1916) in the Sierra Nevada. All *Neotamias* formerly were placed in the genera *Eutamias* and *Tamias*.

Neotamias dorsalis (cliff chipmunk)—Distributed in piñon pine and juniper habitat in eastern and southern Nevada. The subspecies are: *N. d. grinnelli* (Burt 1931) in the Sheep Mountains in Clark County, the Toiyabe Mountains in Nye and Lander counties, and northward; and *N. d. utahensis* (Merriam 1897) along the eastern border of the state.

Neotamias minimus (least chipmunk)—Common and known from multiple localities in sagebrush habitat in the northern half of the state, exclusive of lowlands. The subspecies is *N. m. scrutator* (Hall and Hatfield 1934).

Neotamias palmeri (Palmer's chipmunk)—Confined to the Spring Mountains in Clark County in southern Nevada. *Neotamias palmeri* (Merriam 1897) is a monotypic species.

Neotamias panamintinus (Panamint chipmunk)—Found in piñon-juniper regions along the southwestern edge of the state from Douglas County south to Nye County. The subspecies is *N. p. panamintinus* (Merriam 1893).

Neotamias quadrimaculatus (long-eared chipmunk)—Occurs in shrubby openings in the coniferous forests in the Sierra Nevada. *Neotamias quadrimaculatus* (Gray 1867) is a monotypic species.

Neotamias speciosus (lodgepole chipmunk)—Found in lodgepole pine forests in the Sierra Nevada in western Nevada. The subspecies is *N. s. frater* (Allen 1890).

Neotamias senex (Allen's chipmunk)—Distributed in coniferous forests in the Sierra Nevada. *Neotamias senex* (J.A. Allen 1890) is a monotypic species.

Neotamias umbrinus (Uinta chipmunk)—Found in coniferous forests at moderate to high elevations in the mountains of central and eastern Nevada. The subspecies are: *N. u. nevadensis*, which is confined to the Sheep Mountains in Clark County and may now be extinct; and *N. u. inyoensis* (Merriam 1897) in the remainder of the range of this species.

Marmota flaviventris (yellow-bellied marmot)—Present in rocky areas in the northern half of the state. Four subspecies occur in Nevada: *M. f. flaviventris* (Audubon and Bachman 1841) occurs in the Sierra Nevada in the west; *M. f. nosophora* Howell 1914 occurs in the northeastern corner of the state; *M. f. parvula* Howell 1914 is found in the Toiyabe, Toquima, and Hot Creek Ranges in central Nevada; and *M. f. avara* (Bangs 1899) occurs in the remainder of the range.

Ammospermophilus leucurus (white-tailed antelope squirrel)—Distributed in desert shrub habitats in the southern and western portions of the state, and recent records extend the distribution into north-central areas of the state (O'Farrell and Clark 1984). The subspecies is *A. l. leucurus* (Merriam 1889).

Spermophilus beecheyi (California ground squirrel)—Common in a variety of habitats in western Nevada from southern Washoe to Douglas County and east into Churchill County. The subspecies is *S. b. fisheri* Merriam 1893.

Spermophilus beldingi (Belding's ground squirrel)—Occurs in meadowlands in the western and northwestern edges of the state and in the central and northeastern portions of the state. The subspecies are: *S. b. oregonus* Merriami 1898 in the northwest; *S. b. beldingi* in the extreme western areas in the vicinity of Lake Tahoe; and *S. b. crebrus* (Hall 1940) in the central and northeastern areas.

Spermophilus canus (Columbia Plateau ground squirrel)—Distributed in sagebrush areas in the northwestern corner of the state. *Spermophilus canus* (Merriam 1898) is a monotypic species.

Spermophilus elegans (Richardson's ground squirrel)—Found in sagebrush habitat in the northeast. The subspecies is *S. e. nevadensis* (Howell 1928).

Spermophilus lateralis (golden-mantled ground squirrel)—Present in open forests and on rock slides throughout mountainous regions of the state. The three subspecies are: *S. l. chrysodeirus* (Merriam 1890) in the Sierra Nevada in the extreme western portion of the state; *S. l. certus* (Goldman 1931) in the Spring Mountains in Clark County; and *S. l. trepidus* (Taylor 1910) in the southwest, northwest, and northeastern portions of Nevada.

Spermophilus mollis (Great Basin ground squirrel)—Ranges in sagebrush areas throughout the Great Basin in the northern two-thirds of the state, except in the northwestern corner. *Spermophilus mollis* (Kennicott 1863) is a monotypic species.

Spermophilus tereticaudus (round-tailed ground squirrel)—Occurs in the desert habitat in southern Nevada. The subspecies is *S. t. tereticaudus* Baird 1857.

Spermophilus variegatus (rock squirrel)—Common in southeastern Nevada. The subspecies are: *S. v. utah* (Merriam 1903) in the south; and *S. v. robustus* (Durrant and Hansen 1954) in the northern portion of the range.

Sciurus griseus (western gray squirrel)—Known from limited localities in Jeffrey pine forests in the Sierra Nevada in western Nevada. The subspecies is *S. g. griseus* (Ord 1818).

Tamiasciurus douglasii (Douglas' squirrel)—Found in coniferous forests in the Sierra Nevada in the west. The subspecies is *T. d. albolimbatus* (Allen 1898).

Glaucomys sabrinus (northern flying squirrel)—Occurs in coniferous forests in the Sierra Nevada at the western edge of the state. The subspecies is *G. s. lascivus* (Bangs 1899).

Family Geomyidae (Pocket Gophers)

Thomomys bottae (Botta's pocket gopher)—Distributed in the lowlands of central, southern and western Nevada. There are twenty recognized subspecies: *T. b. canus* Bailey 1910 near the Black Rock Desert in Pershing and Humboldt counties; *T. b. depressus* Hall 1932 near the Humboldt Salt Marsh in Churchill County; *T. b. lucrificus* Hall and Durham 1938 near Eastgate in Churchill County; *T. b. cinereus* Hall 1932 in the valleys of East Walker River, West Walker River, and Walker River in Lyon County to Walker Lake in Mineral County; *T. b. lacrymalis* Hall 1932 from Fish Lake Valley in Esmeralda County north to Walker Lake in Esmeralda and Lyon counties; *T. b. solitarius* Grinnell 1926 in eastern Mineral and northern Esmeralda County; *T. b. fumosus* Hall 1932 in the Great Smoky Valley to the southern end of the Toiyabe Mountains in western Nye County; *T. b. curtatus* Hall 1932 from San Antonio in Nye County; *T. b. vescus* Hall and Davis 1935 in the Toiyabe Mountains in Nye County; *T. b. concisor* Hall and Davis 1935 in Monitor Valley in Nye County; *T. b. abstrusus* Hall and Davis 1935 from the northern end of Fish Valley in Nye County; *T. b. brevidens* Hall 1932 in central Nye County; *T. b. latus* Hall and Davis 1940 in Steptoe Valley in White Pine County; *T. b. centralis* Hall 1930 from southern White Pine County south across eastern Nevada, excluding the Virgin River Valley; *T. b. virgineus* Goldman 1937 in the Virgin River Valley; *T. b. nanus* Hall 1932 in the Quinn Canyon Mountains in Lincoln and Nye counties; *T. b. phelleoecus* Burt 1933 in the Sheep Mountains in Clark County; *T. b. melanotis* Grinnell 1918 on Mount Magruder in southern Esmeralda County; *T. b. oreoecus* Burt 1932 in the Grapevine Mountains in southern Nye County; and *T. b. providentialis* Grinnell 1931 in southern Clark County exclusive of the Colorado River Valley.

Thomomys monticola (mountain pocket gopher)—Found in forest meadows in the Sierra Nevada in Washoe, Carson City, and Douglas counties. The subspecies is *T. m. monticola* Allen 1893.

Thomomys talpoides (northern pocket gopher)—Occurs in a variety of habitats in northern Nevada and in the Sierra Nevada. The subspecies are: *T. t. quadratus* Merriam 1897 in the extreme northwest; *T. t. gracilis* Durrant 1939 in the northeast; *T. t. fisheri* Merriam

1901 in southern Washoe County in the west; *T. t. monoensis* Huey 1934 along the western border of the state from Douglas to Esmeralda County; and *T. t. falcifer* Grinnell 1926 in the central portion of the state.

Thomomys townsendii (Townsend's pocket gopher)—Distributed in the Humboldt River valley and associated waterways in northern Nevada. The subspecies is *T. t. nevadensis* Merriam 1897. *T. t. elkoensis* is a synonym of *T. t. nevadensis* (Verts and Carroway 2003).

Family Heteromyidae

(Pocket Mice, Kangaroo Mice and Kangaroo Rats)

Perognathus longimembris (little pocket mouse)—Occurs in sandy areas associated with creosote and sagebrush throughout the state, exclusive of the central-eastern and northeastern portions of the state. The subspecies are: *P. l. nevadensis* (Merriam 1894) in the central and northwestern areas; *P. l. panamintinus* (Merriam 1894) in western Nevada from southern Humboldt County south to Clark County; *P. l. virginis* Huey 1939 in the Virgin River Valley in Lincoln and Nye counties; and *P. l. gulosus* Hall 1941 along the eastern border of the state in White Pine and Elko counties.

Perognathus parvus (Great Basin pocket mouse)—Common and widespread from northern Clark County north throughout the state. The subspecies are: *P. p. parvus* (Peale 1848) in the extreme northwestern corner of the state; and *P. p. olivaceous* Merriam 1889 across the remainder of the range.

Chaetodipus formosus (long-tailed pocket mouse)—Distributed in lowlands and valleys in western and southern Nevada as well as White Pine County in the east. The subspecies are: *C. f. melanurus* (Hall 1941) in Humboldt, Pershing, and Washoe counties; *C. f. mohavensis* (Huey 1938) in the southwestern and southern portions of the state; and *C. f. incolatus* (Hall 1941) on Mount Moriah in eastern White Pine County.

Chaetodipus penicillatus (Sonoran desert pocket mouse)—Restricted to sandy soils in Clark County in southern Nevada. The subspecies are: *C. p. sobrinus* (Goldman 1939) along the Muddy, Virgin, and Colorado Rivers north of Hoover Dam; and *C. p.*

penicillatus Woodhouse 1852 along the southern extent of the Colorado River.

Chaetodipus spinatus (spiny pocket mouse)—Occurs in extreme southern Nevada. The subspecies is *C. s. spinatus* (Merriam 1889).

Microdipodops megacephalus (dark kangaroo mouse)—Distributed in fine, gravelly soils throughout the northern two-thirds of the state. Nine subspecies occur in the state: *M. m. oregonus* Merriam 1901 occurs in the northwestern corner; *M. m. californicus* Merriam 1901 in southern Washoe and Douglas counties; *M. m. nasutus* Hall 1941 in Mineral County; *M. m. ambiguous* Hall 1941 from southern Humboldt to southern Washoe counties; *M. m. medius* Hall 1941 in southwestern Pershing County; *M. m. nexus* Hall 1941 in southeastern Humboldt and northwestern Lander counties; *M. m. megacephalus* Merriam 1891, widely distributed across central and northeastern Nevada; *M. m. sabulonis* Hall 1941 in the south-central area; and *M. m. albiventer* Hall and Durrant 1937 in central Lincoln County. Medica (1990) has reported on the extension of the known distribution of this species to the southwest in Nye County.

Microdipodops pallidus (pale kangaroo mouse)—Occurs in fine sandy soils in the southwest and south-central portions of the state and eastward into Nye and Lincoln counties. The four subspecies are: *M. p. pallidus* Merriam 1901 from southern Pershing County to Lander County; *M. p. ruficollaris* Hall 1941 from western Nye to western Lincoln County; *M. p. ammophilus* Hall 1941 in eastern Nye County; and *M. p. purus* Hall 1941 in western Lincoln County.

Dipodomys californicus (California kangaroo rat)—Known only from a single specimen collected in Washoe County, in extreme northwest Nevada (Stangel et al. 1999); this record may indicate an accidental occurrence. The subspecies is *D. c. californicus* Merriam 1890.

Dipodomys deserti (desert kangaroo rat)—Distributed in sandy desert habitat in southern and western parts of the state. The subspecies are: *D. d. aquilus* Nader 1965 in Humboldt, Pershing, and Washoe counties; and *D. d. deserti* Stephens 1887, which occurs from Churchill County south to Clark County.

Dipodomys merriami (Merriam's kangaroo rat)—Found in the desert valleys of southern and western Nevada. The subspecies is *D. m. merriami* Mearns 1890.

Dipodomys microps (chisel-toothed kangaroo rat)—Occurs in sagebrush and creosote areas exclusive of the Humboldt and Colorado River areas. The five subspecies are: *D. m. preblei* (Goldman 1921) in northern Washoe and northern Humboldt County; *D. m. aquilonius* (Willett 1935) in central Washoe County; *D. m. centralis* Hall and Dale 1939, found from southeastern Humboldt south to central Nye County; *D. m. occidentalis* Hall and Dale 1939 in the southwest in Nye, western Lincoln and Clark counties; and *D. m. bonnevilliei* Goldman 1937 in western Elko and White Pine counties.

Dipodomys ordii (Ord's kangaroo rat)—Distributed in sagebrush and creosote habitats across the northern two-thirds of the state. Five subspecies occur in Nevada: *D. o. inaquosus* Hall 1941 in southeastern Humboldt and northern Lander counties; *D. o. celeripes* Durrant and Hall 1939 at the western edge of the state in Elko and White Pine counties; *D. o. monoensis* (Grinnell 1919), from Pershing to central Esmeralda County; *D. o. fetusus* Durrant and Hall 1939 in eastern Nye and northern Lincoln County; and *D. o. columbianus* (Merriam 1894), common throughout the remainder of the range.

Dipodomys panamintinus (Panamint kangaroo rat)—Found in sagebrush and piñon-juniper habitats in western Nevada. The subspecies are: *D. p. caudatus* Hall 1946 in western Clark County in the south; and *D. p. leucogenys* (Grinnell 1919) from southern Washoe to western Mineral County.

Family Castoridae (Beavers)

Castor canadensis (American beaver)—Naturally occurs in streams and lakes in northeastern Nevada and southern Nevada. This species was introduced into the Sierra Nevada region and Truckee River Basin in California in the 1930s and 1940s, which was followed by subsequent range expansion into Nevada (Beier and Barrett 1989). The introduced individuals

were taken from Idaho and Oregon populations (Tappe 1942), making subspecific designation of this introduced variant difficult. The subspecies are: *C. c. taylori* Davis 1939 in the Snake River drainage; *C. c. baileyi* Nelson 1927 in the Humboldt River valley; and *C. c. repentinus* Goldman 1932 in the Colorado River drainage.

Family Muridae (Mice, Rats, Voles, and Muskrats)

Reithrodontomys megalotis (western harvest mouse)—Common in grasslands throughout the state. The subspecies is *R. m. megalotis* (Baird 1857).

Peromyscus boylii (brush mouse)—Rare in brushy areas along streams near the Sierra Nevada in the west and in the southern portion of the state. The subspecies are: *P. b. boylii* (Baird 1855) near Lake Tahoe in the west; and *P. b. rowleyi* (Allen 1893) in Clark and Lincoln counties in the south.

Peromyscus crinitus (canyon mouse)—Found in rocky habitat across the entire state. The subspecies are: *P. c. crinitus* (Merriam 1891) in the western half of the state; *P. c. pergracilis* (Goldman 1939) in White Pine, Elko, and Eureka counties in the east; and *P. c. stephensi* Mearns 1897 in the southern half of the state.

Peromyscus eremicus (cactus mouse)—Distributed in the desert lowlands of southern Nevada. The subspecies is *P. e. eremicus* (Baird 1857).

Peromyscus maniculatus (deer mouse)—Ubiquitous throughout the state. The subspecies are: *P. m. gambelii* (Baird 1857) in northwestern Nevada; and *P. m. sonoriensis* (LeConte 1853) in the remainder of the state.

Peromyscus truei (piñon mouse)—Occurs in rocky, piñon-juniper areas across the southern two-thirds of the state, with recent extensions of known range northward in Nevada (O'Farrell and Clark 1984). The subspecies are: *P. t. truei* (Shufeldt 1885) in western and southern Nevada; and *P. t. nevadensis* Hall and Hoffmeister 1940 in Elko, White Pine, and Lincoln counties in the east.

Onychomys leucogaster (northern grasshopper mouse)—Occurs at moderate elevations in the northern half of the state. The subspecies is *O. l. brevicaudus* Merriam 1891; *Onychomys l. fuscogriseus* is a synonym.

Onychomys torridus (southern grasshopper mouse)—Found in the lowlands of southern and western Nevada. The subspecies are: *O. t. pulcher* Elliot 1903 at the extreme southern tip of the state in Clark County; and *O. t. longicaudus* Merriam 1889 in the remainder of the range.

Sigmodon arizonae (Arizona cotton rat)—Historically occurred along the Colorado River at the extreme southern tip of the state in Clark County, though the available habitat may have been destroyed with the formation of Lake Mead. The subspecies is *S. a. plenus* Goldman 1938.

Neotoma cinerea (bushy-tailed woodrat)—Found in forests in the northern half of the state and southward along the western border into southern Nevada. The subspecies are: *N. c. alticola* Hooper 1940 in the north; *N. c. acraia* (Elliot 1903) from the Sierra Nevada across the central and western parts of the state and south to the Sheep Mountains in Clark County; and *N. c. lucida* Goldman 1917 in the Spring Mountains in Clark County.

Neotoma lepida (desert woodrat)—Common in rocky habitats throughout the state. The subspecies are: *N. l. nevadensis* Taylor 1910 in the northwest; *N. l. grinnelli* Hall 1942 in southern Clark County; and *N. l. lepida* Thomas 1893 across the majority of the state.

*Rattus norvegicus** (Norway rat)—Introduced and occurs throughout the state in association with *Homo sapiens*. The subspecies is *R. n. norvegicus* (Berkenhout 1769).

*Rattus rattus** (black rat)—Introduced and known only in the vicinity of Reno in Washoe County and near Las Vegas in Clark County. The subspecies is *R. r. alexandrinus* (Geoffroy 1803).

*Mus musculus** (house mouse)—Introduced species found throughout the state.

Phenacomys intermedius (western heather vole)—Distributed in grassy or open areas in coniferous forests in the Sierra Nevada in western Nevada. The subspecies is *P. i. celsus* Howell 1923.

Microtus longicaudus (long-tailed vole)—Occurs in grassy, herbaceous areas and aspen thickets in the northern two-thirds of the state. The three subspecies are: *M. l. mordax* (Merriam 1891) along the northern border of the state and into northern White Pine County; *M. l. sierrae* Kellogg 1922 in the Sierra Nevada south into Douglas County; and *M. l. latus* Hall 1931 in the remainder of the range.

Microtus montanus (montane vole)—Distributed in moist, grassy areas and meadows in the northern half of the state and in central Lincoln and southern Nye County. There are six subspecies in Nevada: *M. m. fucosus* Hall 1935 in Pahrangat Valley in Lincoln County; *M. m. micropus* Hall 1935 in the northern half of the state; *M. m. montanus* (Peale 1848) from Pyramid Lake in southern Washoe County south to Esmeralda County; *M. m. nanus* in the extreme northeastern corner of Elko County; *M. m. nevadensis* Bailey 1898 in Ash Meadows in Nye County; and *M. m. undosis* Hall 1935 along the lower Humboldt River.

Lemmiscus curtatus (sagebrush vole)—Found in the northern two-thirds of the state in sagebrush habitat. The subspecies are: *L. c. curtatus* from Nye County west along the western border of the state; and *L. c. intermedius* in the central and northern areas.

Ondatra zibethicus (common muskrat)—Occurs near marshes, lakes, and streams in southern, western, and northeastern Nevada. The subspecies are: *O. z. bernardi* Goldman 1932 along the Colorado River in the south; *O. z. goldmani* Huey 1938 along the Virgin River in the south; *O. z. osoyoosensis* (Lord 1863) in northern Elko County along the Snake River and associated waterways; and *O. z. mergens* (Hollister 1910) in western Nevada and in northern Nevada along the Humboldt River and southward along the Reese River.

Family Zapodidae
(Jumping Mice)

Zapus princeps (western jumping mouse)—Common in forested areas in northern Nevada. The subspecies are: *Z. p. curtatus* Hall 1931 in the Pine Forest Mountains of Humboldt County; *Z. p. oregonus* Preble 1899 along the waterways in the northeast; and *Z. p. pacificus* Merriam 1897 in the Sierra Nevada in extreme western Nevada. *Zapus p. nevadensis* and *Z. p. palatinus* are synonyms of *Z. p. oregonus*; *Z. p. alleni* is synonymous with *Z. p. pacificus*.

Family Erethizontidae
(New World Porcupines)

Erethizon dorsatum (North American porcupine)—Occurs in forests and piñon-juniper and riparian woodlands throughout the state. The subspecies are: *E. d. couesi* Mearns 1897 in Clark County; and *E. d. epixanthum* Brandt 1835 in the remainder of the state.

Family Myocastoridae
(Nutria)

*Myocastor coypus** (nutria or coypu)—Introduced and occurs around major waterways.

ORDER CARNIVORA – CARNIVORES**Family Canidae**
(Dogs, Foxes, and Wolves)

*Canis familiaris** (feral dog)—A feral species that is common throughout much of the state, especially in close association with *Homo sapiens*.

Canis latrans (coyote)—Common and widespread across the entire state. The subspecies are: *C. l. lestes* Merriam 1897 in the northern two-thirds of the state; and *C. l. mearnsi* Merriam 1897 in the south.

Vulpes macrotis (kit fox)—Common in moderate to low elevation open desert areas, characterized by shrubs and grasses. The subspecies are: *V. m. arsipus* Elliot 1903 in the southern Nevada; and *V. m. nevadensis* Goldman 1931 in lower elevations in the central and western portions of the state. This species is considered conspecific with *V. velox*, the swift fox, by some authors (Wilson and Ruff 1999).

Vulpes vulpes (red fox)—Known from numerous localities in forested mountain ranges across the state. The subspecies is *V. v. necator* Merriam 1900.

Urocyon cinereoargenteus (common gray fox)—Occurs in brushy or forested areas in southern half of the state. The subspecies is *U. c. scottii* Mearns 1891.

Family Ursidae
(Bears)

Ursus americanus (American black bear)—Occurs in the Sierra Nevada in the extreme western portion of the state. The subspecies is *U. a. californiensis* J. Miller 1900.

Family Procyonidae
(Ringtails and Raccoons)

Bassariscus astutus (ringtail)—Associated with rocky hillsides in piñon-juniper woodlands and riparian habitats in southern Nevada. The subspecies is *B. a. nevadensis* Miller 1913.

Procyon lotor (northern raccoon)—Originally restricted to habitats near water, this species now occurs throughout the state, recently expanding into the dry, central aridlands (Kamler et al. 2003). The three subspecies are: *P. l. excelsus* Nelson and Goldman 1930 in the northern part of the state; *P. l. psora* Gray 1842 in the extreme west near Lake Tahoe; and *P. l. pallidus* Merriam 1900 in southern Nevada along the Colorado and Virgin rivers and Meadow Valley Wash.

Family Mustelidae
(Weasels, Wolverine, Badgers, and Otters)

Martes americana (American marten)—Occurs in dense coniferous forests in the Sierra Nevada in the west. The subspecies is *M. a. sierrae* Grinnell and Storer 1916.

Mustela erminea (ermine or short-tailed weasel)—Distributed in forested areas at higher elevations in the northern half of the state. The subspecies is *M. e. murices* (Bangs 1899).

Mustela frenata (long-tailed weasel)—Abundant throughout the state near water and generally exclu-

sive of southern deserts, but Medica (1990) indicates that the range of this species may be expanding southward. The subspecies is *M. f. nevadensis* Hall 1936.

Mustela vison (American mink)—Found along streams and lakes in northern and western areas of the state. The subspecies are: *M. v. aestuarina* Grinnell 1916 near waterways in the Sierra Nevada Mountains and along the Truckee and Walker rivers; and *M. v. energumenos* (Bangs 1896) in the north along the Humboldt River and near Ruby Lake and associated waterways.

Gulo gulo (wolverine)—Historically occurred in dense coniferous forests in the extreme western and northeastern portions of the state. The subspecies is *G. g. luteus* Elliot 1904.

Taxidea taxus (American badger)—Common at moderate to high elevations in mountains and in dry open hills and valleys. The subspecies are: *T. t. berlandieri* Baird 1857 in the southern third of the state; and *T. t. jeffersoni* (Harlan 1825) throughout the rest of the state.

Lontra canadensis (northern river otter)—Found in association with streams in various parts of the state. The subspecies are: *L. c. pacifica* Rhoads 1893 in the Sierra Nevada in the west and along the Humboldt River and associated waterways in the northeast; and *L. c. sonora* Rhoads 1893 historically occurred along the Colorado and Virgin Rivers in the south.

Family Mephitidae (Skunks)

Spilogale gracilis (western spotted skunk)—Often occurs away from water near rocky and brushy areas, including piñon-juniper woodlands throughout the entire state. The subspecies is *S. g. gracilis* Merriam 1890. This species was formerly included in *S. putorius* and the subspecies was previously split into two separate subspecies, *S. g. saxatilis* and *S. g. gracilis*.

Mephitis mephitis (striped skunk)—Found throughout the state near water. The subspecies are:

M. m. estor Merriam 1890 along the Colorado River in the south; and *M. m. major* (Howell 1901) along waterways in the remainder of the state.

Family Felidae (Cats)

*Felis catus** (feral cat)—A feral species found throughout the state and commonly associated with *Homo sapiens*.

Puma concolor (mountain lion or puma)—Occurs throughout the state in densely forested and brushy areas. The subspecies are: *P. c. californica* May 1896 along the western edge of the state; and *P. c. kaibabensis* Nelson and Goldman 1931 in the central and eastern parts of the state.

Lynx rufus (bobcat)—Abundant throughout the state near mountainous areas. The subspecies are: *L. r. californicus* Mearns 1897 in the Sierra Nevada Mountains; *L. r. baileyi* Merriam 1890 in the southern and southwestern portions of the state; and *L. r. pallescens* Merriam 1899 in the northern half of the state.

ORDER PERISSODACTYLA – ODD-TOED UNGULATES **Family Equidae** (Horses and Asses)

*Equus asinus** (feral ass)—Introduced and occurs in small managed herds throughout the state. Currently, herds exist in Clark, Esmerelda, Humboldt, Lander, Mineral, Nye, Pershing, and White Pine counties. Estimated herd populations range from 15 to 248 individuals (mean = 55; Bureau of Land Management National Wild Horse and Burro Program 2004; <http://www.wildhorseandburro.blm.gov>).

*Equus caballus** (feral horse)—Introduced and occurs in numerous managed herds throughout the state. Estimated herd populations range from 3 to 1,020 individuals (mean = 199; Bureau of Land Management National Wild Horse and Burro Program 2004; <http://www.wildhorseandburro.blm.gov>).

**ORDER ARTIODACTYLA—EVEN-TOED
UNGULATES**

Family Cervidae
(Deer)

*Cervus canadensis** (wapiti or elk)—Introduced to several mountain ranges in northeastern Nevada, and occur at moderate to high elevations. The subspecies is *C. c. nelsoni* Bailey 1935.

Odocoileus hemionus (mule or black-tailed deer)—Found throughout the state in forested areas at higher elevations in spring and summer months and at lower elevations during the winter, exclusive of extreme southern desert habitats. The subspecies is *O. h. hemionus* Rafinesque 1817.

Family Antilocapridae
(Pronghorn)

Antilocapra americana (pronghorn)—Widespread in sagebrush habitats at moderate to low elevations throughout the state, primarily in northern Nevada and a few areas in the eastern and south-central portions of the state. The subspecies is *A. a. americana* (Ord 1815).

Family Bovidae
(Bovids)

*Bos taurus** (domestic cattle)—Introduced and occurs throughout the state.

*Oreamnos americanus** (mountain goat)—Introduced into the Humboldt Range and the Ruby Mountains.

Ovis canadensis (mountain or bighorn sheep)—Originally widespread throughout the state in steep, rocky terrain but was likely completely extirpated by the 1930's (Tsukamoto 1993). Starting in 1967, individuals were transplanted and reintroduced to numerous mountain ranges throughout the historic range. The subspecies are: *O. c. californiana* Douglas 1829 on the high plateaus in the northwest; *O. c. canadensis* Shaw 1804 in the mountains of the northeast; and *O. c. nelsoni* Merriam 1897 in the mountain ranges in the southern two-thirds of the state (Cummings and Stevenson 1997; Weaver 1985).

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APPENDIX I

Appendix 1.—Global and state conservation status of selected species and subspecies of Nevada mammals, based on rankings set by the Nevada Natural Heritage Program (NNHP). Rankings reflect the rarity and vulnerability of a species on two scales, a global scale (G-rank) and a state scale (S-rank). These ranks are based on a scale of 1 to 5, with 5 indicating widespread and secure and 1 indicating critically imperiled. Species are arranged phylogenetically by genus and alphabetically within each genus. Additional information regarding these rankings can be found in the key following the table and at the NNHP website at www.heritage.nv.gov.

Scientific Name	Common Name	Global Rank	State Rank
<i>Sorex merriami leucogenys</i>	Merriam's shrew	G5T5	S3
<i>Sorex monticolus</i>	dusky or montane shrew	G5	S3
<i>Sorex palustris</i>	American water shrew	G5	S2
<i>Sorex preblei</i>	Preble's shrew	G4	S1S2
<i>Sorex tenellus</i>	Inyo shrew	G3G4	S2
<i>Sorex trowbridgii</i>	Trowbridge's shrew	G5	S2
<i>Sorex vagrans</i>	vagrant shrew	G5	S4
<i>Notiosorex crawfordi</i>	Crawford's desert shrew	G5	S3
<i>Scapanus latimanus</i>	broad-footed mole	G5	S3
<i>Macrotus californicus</i>	California leaf-nosed bat	G4	S2
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	G4	SA
<i>Myotis californicus</i>	California myotis	G5	S3B
<i>Myotis ciliolabrum</i>	western small-footed myotis	G5	S3B
<i>Myotis evotis</i>	long-eared myotis	G5	S4B
<i>Myotis lucifugus</i>	little brown myotis	G5	S1S2
<i>Myotis thysanodes</i>	fringed myotis	G4G5	S2B
<i>Myotis velifer</i>	cave myotis	G5	S1
<i>Myotis volans</i>	long-legged myotis	G5	S4B
<i>Myotis yumanensis</i>	Yuma myotis	G5	S4B
<i>Lasiurus blossevillii</i>	western red bat	G5	S1S2
<i>Lasiurus cinereus</i>	hoary bat	G5	S3?
<i>Lasiurus xanthinus</i>	western yellow bat	G5	S1
<i>Lasionycteris noctivagans</i>	silver-haired bat	G5	S3N
<i>Pipistrellus hesperus</i>	western pipistrelle	G5	S4
<i>Eptesicus fuscus</i>	big brown bat	G5	S5
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	G4	S3B
<i>Idionycteris phyllotis</i>	Allen's big-eared bat	G3G4	S1
<i>Antrozous pallidus</i>	pallid bat	G5	S3B
<i>Euderma maculatum</i>	spotted bat	G4	S1S2
<i>Tadarida brasiliensis</i>	Brazilian free-tailed bat	G5	S4B
<i>Nyctinomops macrotis</i>	big free-tailed bat	G5	S1N
<i>Eumops perotis californicus</i>	greater western bonneted bat	G5T4	S1
<i>Ochotona princeps</i>	American pika	G5	S3
<i>Brachylagus idahoensis</i>	pygmy rabbit	G4	S3
<i>Sylvilagus audubonii</i>	desert cottontail	G5	S5
<i>Sylvilagus nuttallii</i>	mountain cottontail	G5	S5
<i>Lepus americanus tahoensis</i>	Sierra Nevada snowshoe hare	G5T3T4Q	S3
<i>Lepus californicus</i>	black-tailed jackrabbit	G5	S5
<i>Lepus townsendii</i>	white-tailed jackrabbit	G5	S5
<i>Aplodontia rufa californica</i>	Mono Basin mountain beaver	G5T3T4	S1
<i>Neotamias amoenus celeris</i>	Humboldt yellow-pine chipmunk	G5T1	S2
<i>Neotamias dorsalis</i>	cliff chipmunk	G5	S5
<i>Neotamias minimus</i>	least chipmunk	G5	S5
<i>Neotamias palmeri</i>	Palmer's chipmunk	G2	S2

Appendix 1(cont.)

Scientific Name	Common Name	Global Rank	State Rank
<i>Neotamias panamintinus</i>	Panamint chipmunk	G4	S4
<i>Neotamias senex</i>	Allen's chipmunk	G5	S2S3
<i>Neotamias quadrimaculatus</i>	long-eared chipmunk	G4G5	S4
<i>Neotamias speciosus</i>	lodgepole chipmunk	G4	S4
<i>Neotamias umbrinus nevadensis</i>	Hidden Forest Uinta chipmunk	G5TH	SH
<i>Marmota flaviventris</i>	yellow-bellied marmot	G5	S4
<i>Ammospermophilus leucurus</i>	white-tailed antelope squirrel	G5	S5
<i>Spermophilus beecheyi</i>	California ground squirrel	G5	S5
<i>Spermophilus beldingi</i>	Belding's ground squirrel	G5	S5
<i>Spermophilus canus</i>	Columbia Plateau ground squirrel	G4	S3S4
<i>Spermophilus elegans nevadensis</i>	Wyoming ground squirrel	G5T4	S4
<i>Spermophilus lateralis</i>	golden-mantled ground squirrel	G5	S5
<i>Spermophilus mollis</i>	Great Basin ground squirrel	G5	S4S5
<i>Spermophilus tereticaudus</i>	round-tailed ground squirrel	G5	S5
<i>Spermophilus variegatus</i>	rock squirrel	G5	S5
<i>Sciurus griseus griseus</i>	western gray squirrel	G5T5	S4
<i>Tamiasciurus douglasii</i>	Douglas' squirrel	G5	S5
<i>Glaucomyss sabrinus</i>	northern flying squirrel	G5	S3
<i>Thomomys bottae abstrusus</i>	Fish Spring pocket gopher	G5TH	SH
<i>Thomomys bottae curtatus</i>	San Antonio pocket gopher	G5TH	SH
<i>Thomomys monticola</i>	mountain pocket gopher	G5	S3
<i>Thomomys talpoides</i>	northern pocket gopher	G5	S5
<i>Thomomys townsendii</i>	Townsend's pocket gopher	G4G5	S4S5
<i>Perognathus longimembris</i>	little pocket mouse	G5	S5
<i>Perognathus parvus</i>	Great Basin pocket mouse	G5	S5
<i>Chaetodipus formosus</i>	long-tailed pocket mouse	G5	S5
<i>Chaetodipus penicillatus</i>	Sonoran desert pocket mouse	G5	S1S2
<i>Chaetodipus spinatus</i>	spiny pocket mouse	G5	S3
<i>Microdipodops megacephalus albiventer</i>	Desert Valley kangaroo mouse	G5T2	S2
<i>Microdipodops megacephalus nasutus</i>	Fletcher dark kangaroo mouse	G5T2	S2
<i>Microdipodops pallidus</i>	pale kangaroo mouse	G3	S2
<i>Dipodomys californicus</i>	California kangaroo rat	G4	SA
<i>Dipodomys deserti</i>	desert kangaroo rat	G5	S2S3
<i>Dipodomys merriami</i>	Merriam's kangaroo rat	G5	S5
<i>Dipodomys microps</i>	chisel-toothed kangaroo rat	G5	S5
<i>Dipodomys ordii</i>	Ord's kangaroo rat	G5	S5
<i>Dipodomys panamintinus</i>	Panamint kangaroo rat	G5	S4
<i>Castor canadensis</i>	American beaver	G5	S4
<i>Reithrodontomys megalotis</i>	western harvest mouse	G5	S4
<i>Peromyscus boylii</i>	brush mouse	G5	S3
<i>Peromyscus crinitus</i>	canyon mouse	G5	S5
<i>Peromyscus eremicus</i>	cactus mouse	G5	S5
<i>Peromyscus maniculatus</i>	deer mouse	G5	S5
<i>Peromyscus truei</i>	piñon mouse	G5	S5
<i>Onychomys leucogaster</i>	northern grasshopper mouse	G5	S5
<i>Onychomys torridus</i>	southern grasshopper mouse	G5	S5
<i>Sigmodon arizonae plenus</i>	Arizona cotton rat	G5T2T3	SX
<i>Neotoma albigula</i>	white-throated woodrat	G5	SRF
<i>Neotoma cinerea</i>	bushy-tailed woodrat	G5	S4
<i>Neotoma devia</i>	Arizona woodrat	G5	SP
<i>Neotoma lepida</i>	desert woodrat	G5	S5
<i>Rattus norvegicus</i>	norway rat	G5	SE
<i>Rattus rattus</i>	black rat	G5	SE

Appendix 1(cont.)

Scientific Name	Common Name	Global Rank	State Rank
<i>Mus musculus</i>	house mouse	G5	SE
<i>Phenacomys intermedius</i>	western heather vole	G5	SP
<i>Microtus longicaudus</i>	long-tailed vole	G5	S4
<i>Microtus montanus nevadensis</i>	Ash Meadows montane vole	G5TH	SH
<i>Microtus montanus fucosus</i>	Pahranagat Valley montane vole	G5T2	S2
<i>Lemmiscus curtatus</i>	sagebrush vole	G5	S3
<i>Ondatra zibethicus</i>	common muskrat	G5	S5
<i>Zapus princeps oregonus</i>	western jumping mouse	G5T4	S2
<i>Erethizon dorsatum</i>	North American porcupine	G5	S5
<i>Myocastor coypus</i>	nutria or coypu	G5	SE
<i>Canis latrans</i>	coyote	G5	S5
<i>Canis lupus</i>	gray wolf	G4	SH
<i>Vulpes macrotis</i>	kit fox	G4	S3
<i>Vulpes vulpes necator</i>	Sierra Nevada red fox	G5T3	S3
<i>Urocyon cinereoargenteus</i>	gray fox	G5	S5
<i>Ursus arctos horribilis</i>	grizzly bear	G4T3T4	SX
<i>Ursus americanus</i>	American black bear	G5	S4
<i>Bassariscus astutus</i>	ringtail	G5	S4
<i>Procyon lotor</i>	raccoon	G5	S5
<i>Martes americana</i>	American marten	G5	S2S3
<i>Mustela erminea</i>	ermine or short-tailed weasel	G5	S3
<i>Mustela frenata</i>	long-tailed weasel	G5	S5
<i>Mustela vison</i>	American mink	G5	S4
<i>Gulo gulo</i>	wolverine	G4	SH
<i>Taxidea taxus</i>	American badger	G5	S4
<i>Lontra canadensis</i>	northern river otter	G5	S2
<i>Lontra canadensis sonora</i>	southwestern otter	G5T1	SH
<i>Spilogale gracilis</i>	western spotted skunk	G5	S4
<i>Mephitis mephitis</i>	striped skunk	G5	S5
<i>Puma concolor</i>	mountain lion	G5	S5
<i>Lynx canadensis</i>	Canada lynx	G5	SX
<i>Lynx rufus</i>	bobcat	G5	S5
<i>Equus asinus</i>	feral ass	G5	SE5
<i>Equus caballus</i>	feral horse	G5	SE5
<i>Cervus canadensis</i>	wapiti or elk	G5	S5
<i>Odocoileus hemionus</i>	mule or black-tailed deer	G5	S4
<i>Alces alces</i>	moose	G5	SA
<i>Antilocapra americana</i>	pronghorn	G5	S5
<i>Bos bison</i>	American bison	G4	SX
<i>Oreamnos americanus</i>	mountain goat	G5	SE
<i>Ovis canadensis</i>	bighorn sheep	G4	S4
<i>Ovis canadensis nelsoni</i>	desert bighorn sheep	G4T4	S3

Key to NNHP Global (G-rank) and State (S-rank) ranks for threats and/or vulnerability:

G – Global rank indicator, based on worldwide distribution at the species level.

T – Global trinomial rank indicator, based on worldwide distribution at the subspecies or variety level.

S – State rank indicator, based on distribution within Nevada at the lowest taxonomic level.

Appendix 1(cont.)

Detailed Definitions of Ranks:

S# = Numeric rank: A numeric rank (S1 through S5) of relative endangerment based primarily on the number of occurrences of the taxon within the state. (Note: Other factors in addition to number of occurrences are considered when assigning a rank, so the numbers of occurrences suggested for each numeric rank below are not absolute guidelines.)

S1 = Critically imperiled in the state because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from the state. (Typically 5 or fewer occurrences or very few remaining individuals or acres)

S2 = Imperiled in the state because of rarity or because of some factor(s) making it very vulnerable to extirpation from the state. (6 to 20 occurrences or few remaining individuals or acres)

S3 = Rare and uncommon in the state. (21 to 100 occurrences)

S4 = Widespread, abundant, and apparently secure in state, with many occurrences, but the Element is of long-term concern. (Usually more than 100 occurrences)

S5 = Demonstrably widespread, abundant, and secure in the state, and essentially ineradicable under present conditions.

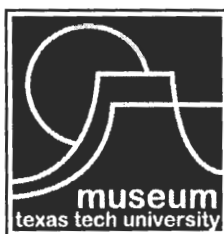
A range between two numeric ranks denotes the range of uncertainty about the exact rarity of a species or subspecies.

Qualifiers that may be added to any given rank:

A	Accidental within Nevada
B	Breeding status within Nevada (excludes resident taxa)
E	Exotic, introduced taxon
H	Historical records; could be rediscovered
N	Non-breeding status within Nevada (excludes resident taxa)
P	Potential within Nevada
Q	Taxonomic status uncertain
RF	Reported falsely within Nevada
X	Extirpated or Extinct
?	Assigned Rank Uncertain

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