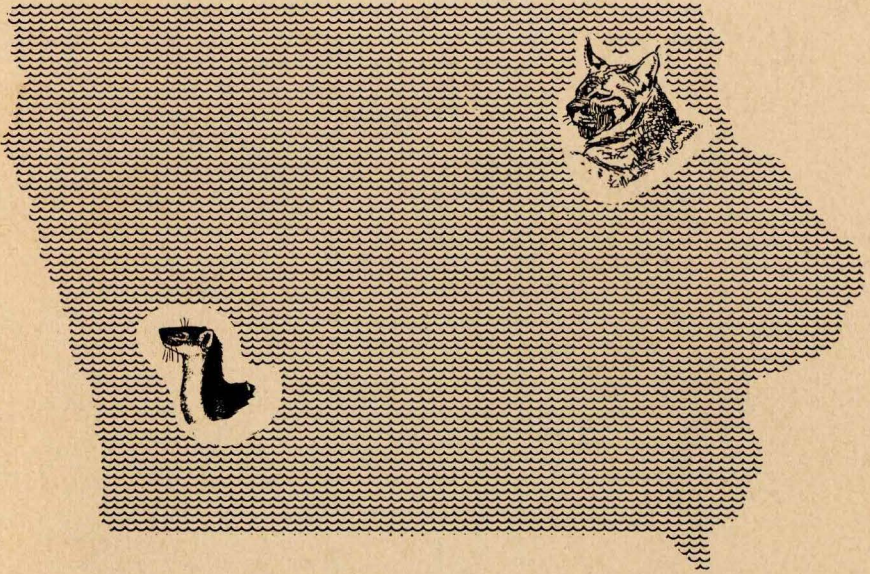


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Endangered
Iowa
Mammals

ENDANGERED AND THREATENED MAMMALS OF IOWA

Compiled by

Dean M. Roosa, Ecologist

State Preserves Board

In Cooperation With the Wildlife Section

Of The Iowa Conservation Commission,

Bob Barratt, Superintendent

October, 1977

Special Report of the Preserves Board

No. 2

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Prepared by:

Dean M. Roosa, Ecologist, State Preserves Board
and Iowa Conservation Commission

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ENDANGERED OR THREATENED MAMMALS OF IOWA

Of the 72 species or subspecies of mammals reported from Iowa, 60 still exist in the state, although a few are sporadic visitors (Bowles, 1975). The remainder, mainly large herbivores or large carnivores, have become extirpated through persecution by European man as he settled the state. A few became extirpated or nearly so, but have become abundant through good game management; beaver and white-tailed deer are examples. Of the small, largely nocturnal mammals, the bats have been most seriously affected; eastern Iowa caves, used for roosting or as hibernacula, have had increased human visitation recently which seems to be affecting distribution. Probably most species of bats which occur in Iowa, but in particular the tree bats, will face serious problems existing due to the accelerating pace of habitat destruction. Our knowledge of Iowa bat populations is too insufficient to adequately determine their true status. Perhaps by the time this list is revised their distribution in Iowa will have been determined. Certain species, for example the black bear (Ursus americana), possibly are expanding their present ranges to include a portion of their former ranges. This may be, in part, due to the concern finally given the plight of animals which were forced to retreat in the face of advancing settlement. The coyote (canis latrans), abundant in the early 1800's, later that century became greatly reduced in numbers, is now expanding its range and numbers in Iowa; the moose (Alces alces), which probably did not occur in Iowa historically, has made three incursions into Iowa in recent years (files of the State Conservation Commission).

It seems obvious that the outlook for a number of species in Iowa is bleak unless we act precipitously and preserve sizeable tracts of their habitat; the red squirrel (Tamiasciurus hudsonicus) and southern flying squirrel (Glaucomys volans), though neither occur on this list, bobcat (Lynx rufus), small mammals of native prairie habitat and cave dwellers would be examples. The habitat destruction currently occurring throughout the state represents a near-crisis. This destruction, coupled with the low amount of public-owned land in Iowa, presents a threat to the life-style, options and freedom of choice of future generations.

Now, as never before, and possibly never again, sizeable appropriations are needed for land acquisition.

The following terminology has been employed in compiling the Iowa list:

- extirpated - a species or subspecies formerly found in Iowa as part of the mammalian fauna; no longer found in the state. In some cases this will be preceded by a modifier; i.e. 'probably extirpated'.
- endangered - a species or subspecies in danger of becoming extirpated in the state in the foreseeable future if its environment worsens and no management action is taken. This term may be followed by modifier clarifying the species' range restriction, for example, 'endangered, peripheral' or 'endangered, relict'.
- threatened - a species or subspecies that may become endangered in the state in the foreseeable future if conditions worsen and no management action is taken.
- undetermined - a species or subspecies that is known to exist in low numbers in the state, but of which we have insufficient information to make an accurate assessment of its status. Hopefully, enough data can be accumulated before the list is revised so the species can be included in the threatened or endangered category or deleted from the list.

STATUS OF IOWA MAMMALS

	Endangered	Threatened	Extirpated	Undetermined
Pigmy Shrew				X
Least Shrew				X
Keene's Myotis		X		
Indiana Bat	X			
Evening Bat		X		
Big Free-tailed Bat			X	
Plains Pocket Mouse	X			
Grasshopper Mouse	X			
Red-backed Vole	X			
Pine Vole	X			
Porcupine			X	
Gray Wolf			X	
Black Bear	X			
Fisher			X	
Ermine				X
Long-tailed Weasel				X
Wolverine			X	
Spotted Skunk				X
River Otter		X		
Mountain Lion			X	
Lynx			X	
Bobcat	X			
American Elk			X	
Bison			X	
Pronghorn			X	

The following list is somewhat preliminary; as more information is gathered, species may be added or deleted. This list, by law, must be updated at least every two years, but may be amended more frequently. Ranges are taken from Bowles (1975), Burt and Grossenheider (1964) or Schwartz (1971). Taxonomic arrangement follows Bowles (1975).

Order: Insectivora
Family: Soricidae -(Shrews)

★ Pygmy Shrew Microsorex hoyi (Baird) Status: Undetermined, peripheral**

Range in North America: Alaska across most of Canada to Labrador, south in eastern U.S. to northern Illinois, south to North Carolina.

Range in Iowa: Known only from Dewey's Pasture (State-owned area), Clay County, where a male and pregnant female were taken in 1938.

Habitat: Ungrazed blue-grass pasture, bordering a lake.

Reason for decline: Peripheral species, never common.

Recommendations: An attempt should be made to determine if this species is a member of Iowa's mammalian fauna. A survey should be made of suitable habitats in northern Iowa.

**There is not complete unanimity of opinion whether this species is, or was, a normal component of Iowa's fauna. Dr. William Blagen has trapped extensively for this species without success in the area of Dewey's Pasture. If it is re-discovered in Iowa, it should be considered 'endangered, peripheral'.

★ Least Shrew Cryptotis parva (Say) Status: Undetermined

Range in North America: New York south to Florida, west to South Dakota, Texas, and northern Mexico.

Range in Iowa: Southern half of state, northward to eastern part of southeastern Minnesota.

Habitat: Moist grassy areas and secondary successional situations.

Reason for decline: Probably never very common; intensive land use has decreased its suitable habitat.

Recommendations: Little is known about the dynamics of the Iowa populations; this aspect should be addressed as part of the state's endangered species program.

* Evening Bat Nycticeius humeralis (Rafinesque) Status: Threatened

Range in North America: Southern Iowa, Illinois, Ohio and Pennsylvania south to Gulf of Mexico and southern Mexico.

Range in Iowa: Southern half of Iowa, north to Hardin County. Known from May through August.

Habitat: Known to form nursery colonies in attics in southern Iowa.

Reason for decline: Iowa forms the northern terminus of its range; perhaps it was never common. The decrease in the number of buildings suitable for nursery colonies has undoubtedly been important.

Recommendations: This species, along with several species of bats, needs a survey of its habitat requirements, distribution and basic biology.

Family: Molossidae (Free-tailed Bats)

* Big Free-tailed Bat Tadarida macrotis (Gray) Status: Extirpated**

Range in North America: Southwestern United States through western states to southern British Columbia, through southern Nebraska into southern Iowa.

Range in Iowa: Known only from two autumn-taken specimens, one from Cedar Rapids in 1910, the other in Marshall County in 1914.

Habitat: Caves, buildings and crevices of cliffs.

**Perhaps of accidental occurrence.

Order: Rodentia

Family: Heteromyidae

★ Plains Pocket Mouse Perognathus flavescens (Osgood) Status: Endangered,
peripheral.

Range in North America: Southeast North Dakota and southwestern Minnesota across northern Iowa, most of South Dakota, south to central Texas.

Range in Iowa: Last published record of this species in Iowa was in 1957. Known from eight widely separated counties: Black Hawk, Boone, Delaware, Fremont, Greene, Guthrie, Linn and Pottawattamie. However, most records are old.

Habitat: Ungrazed grassy slopes. Recently found in this situation in northwestern Missouri in the loess hills.

Reason for decline: Intensive agricultural methods has destroyed almost all suitable habitat.

Recommendations: Recent records of this species from ungrazed grassy slopes in the loess hills of northwest Missouri indicate the loess hills of southwest Iowa should be surveyed. Also, sites in counties where it was formerly collected should be surveyed again. Delaware, Fremont, Guthrie and Linn counties appear to have sufficient suitable habitat remaining.

Family: Cricetidae

★ Grasshopper Mouse Onychomys leucogaster (Wied-Neuwied)
Status: Endangered, peripheral

Range in North America: Grasshopper mice are inhabitants chiefly of the prairies and southwestern desert areas. Canadian provinces south across much of the western United States to southern Mexico.

Range in Iowa: Known only from four counties in extreme northwest Iowa in 1924 and 1950's; prairie in Kossuth county in 1974 (Dr. Nixon Wilson, personal communication, 1976).

Habitat: Prairies, short grass pastures and blue-grass cover along roads.

Reason for decline: As this species is primarily a prairie inhabitant, the destruction of prairie in Iowa has been an important reason for its decline.

Recommendations: Iowa's program of establishing prairie preserves should be continued and, if possible, accelerated.

* Red-backed Vole Clethrionomys gapperi (V. Bailey) Status: Endangered, relict.

Range in North America: Much of Arctic America, south in midwest to northern Iowa, south in west to New Mexico and Arizona; south in eastern United States to Smokey Mountains.

Range in Iowa: Associated with moraines and woodlands in Hancock, Winnebago and Worth Counties (Blagen, 1967).

Habitat: Forest stands; bogs.

Reason for Decline: Peripheral species and perhaps never common; possibly a relict population. Suitable areas near the population center in Iowa have been destroyed in recent years.

Recommendations: Since much of its Iowa range is in a Nature Preserve, it is probably as safe as reasonably possible. If tracts near its principal Iowa range become available, they should be purchased.

* Woodland Vole
Pine Vole Microtus pinetorum (V. Bailey) Status: Endangered

Range in North America: Central Wisconsin south to central Texas, east to New England, south to Florida.

Range in Iowa: Locally distributed in the southern and eastern parts of state. Dr. John Bowles captured a specimen in Fremont County in 1977.

Habitat: Forest floor with a layer of duff; deciduous riparian forests.

Reason for Decline: Requires a relatively undisturbed woodland; these are nearly gone from Iowa. Dr. William Blagen and a graduate student searched for this mammal in the exact locations of previous collections without success.

Recommendations: This species, like numerous others in Iowa, is in need of an investigation of its status. If found, habitat acquisition should follow.

Order; Rodentia

Family: Erethizontidae

* Porcupine Erethizon dorsatum (L.) Status: Extirpated

Range in North America: Alaska and Northwest Territories across most of Canada, south through most of western states of United States, south to northern Minnesota, northern Wisconsin, Michigan to mountains to West Virginia.

Former Range in Iowa: Wooded areas especially in northeastern Iowa. In recent years, Porcupines have been killed in the state; however, these are usually regarded as escaped captive animals. The source of nine adults killed in Hardin County in 1965 (reported in Bowles, 1975) lack adequate explanation. No breeding records have been established.

Habitat: Hardwood forests.

Reason for Extirpation: Seems to have disappeared as the state was settled. No museum specimens exist.

Order: Carnivora

Family: Canidae

* Gray Wolf Canis lupus (Say) Status: Extirpated

Range in North America: Alaska, nearly all of Canada, south into northern Montana, Minnesota and Wisconsin. Scattered populations in western United States.

Former Range in Iowa: Western and northern Iowa. Extirpated by 1885.

Reason for Extirpation: Disappearance of Bison, trapping and poisoning. Sightings persist to date; these are usually coyotes Canis latrans.

Order: Carnivora

Family: Ursidae

- * Black Bear Ursus americana (Pallus) Status: Endangered,
possibly extirpated

Range in North American: Alaska and Northwest Territories across most of Canada south along the west coast to California, along the Rocky Mountains to Mexico, south to central Minnesota and southern Wisconsin, northern Michigan and to the Smoky Mountains. Population known in Ozarks and along Gulf Coast.

Range in Iowa: Formerly wooded areas and riparian communities along larger rivers into the tall-grass prairie. Now, occasional sightings in northeast Iowa in Allamakee, Tama and Winneshiek counties and one was killed in Cedar County in 1965. It is not yet known if these records indicate a range expansion or simply wandering animals forced from their normal habitat. No authentic breeding records have been established.

Reason for decline or extirpation: In Iowa, as in the rest of the world, large carnivores and large herbivores suffer when they compete with man.

Order: Carnivora

Family: Mustelidae

- * Fisher Martes pennanti (Erxleben) Status: Extirpated**

Range in North America: British Columbia and southern Northwest Territories across Canada to Labrador, south in United States along Coast to California, Montana, Idaho and northwest Wyoming; south in midwest to northern Minnesota and east to New England.

Former Range in Iowa: In wooded areas in northeast. Disappeared in early 1800's (Bowles, 1975). Seems to be expanding its range in Minnesota.

**No specimens are extant and only one literature report exists for its occurrence in Iowa. Perhaps it was an accidental straggler.

Order: Carnivora

Family: Mustelidae

* Ermine
Short-tailed Weasel Mustela erminea (Hall) Status: Undetermined,
peripheral

Range in North America: Nearly all of Canada; in the United States, south to California and New Mexico, south to eastern South Dakota, Minnesota, northern Iowa, Wisconsin, Michigan, New England and Pennsylvania.

Range in Iowa: Scattered locations in northern half of state, but there are observations into southern counties. Southern terminus of range not well determined.

Habitat: Wooded areas, usually close to water.

Reason for Decline: Existing on southern range and possibly has always been in low numbers.

Recommendations: The state of Iowa should consider this species, along with other rarities, in future land acquisition.

* Long-tailed Weasel Mustela frenata Status: Undetermined

This is an interesting complex of the following subspecies:

M. f. noveboracensis, M. f. primulina Jackson and M. f. spadix (Bangs). Eastern Iowa specimens seem to be intergrade between M. f. primulina and M. f. noveboracensis, an Illinois subspecies. M. f. spadix occupies the northwest one-half of Iowa. Specimen from Clay and Palo Alto Counties show characters of M. f. longicauda, a Great Plains subspecies and M. f. primulina. Iowa is in a transition zone where individuals may or may not have the white winter pelage.

Range in North America: Most of coterminous United States and southern Canada.

Range in Iowa: M. f. spadix seems to occupy the area north of a line from Council Bluffs to Clayton county. M. f. primulina occupies the area south of the line, with eastern Iowa populations an intergrade with M. f. noveboracensis. M. f. longicauda, a Great Plains subspecies, may enter Iowa from the west.

Habitat: Wide variety of habitats, usually near water.

Recommendations: This complex of subspecies is in need of a thorough study from both a taxonomic and habitat standpoint. Its habitat should be assessed and considered when acquiring land.

* Wolverine Gulo gulo (Linnaeus) Status: Extirpated**

Range in North America: Boreal Canada, south along coast through most of British Columbia to northwest Montana. Small population in California.

Former Range in Iowa: Probably entered the northeast part of Iowa in early 1800's (see Jones, 1964; Lyon, 1936; Scott, 1937). One trapped in 1960 (Haugen, 1961) was probably an escape.

**Indirect evidence suggests this animal was at one time native to Iowa; perhaps its occurrence was accidental or a straggler.

* Spotted Skunk Spilogale putorius (Rafinesque) Status: Undetermined

Range in North America: Most of coterminous United States, except from Iowa east to Pennsylvania and north to New England.

Range in Iowa: Found throughout the state. This species was fairly common until recent times when a serious decline occurred.

Reason for decline: Perhaps decline associated with general decline of small rodents, its food base. Also, the disappearance of old buildings on farmsteads has removed some of its favored den sites.

Recommendations: This species should be closely monitored in the future to determine if the decline is continuing. A state-wide survey, as a follow-up to Sanderson's 1953 survey should be conducted on Iowa mammals.

* River Otter Lutra canadensis (Schreber) Status: Threatened

Range in North America: Canada, except boreal portion; United States except parts of California, Arizona, Utah, New Mexico and Texas.

Range in Iowa: Formerly statewide; now restricted to Mississippi River and tributaries in eastern Iowa. A recent record exists from the Missouri River in Pottawattamie County. Considered rare by 1840 (Galland, 1921).

Habitat: Streams and lake borders.

Reason for decline: Trapping pressure, stream pollution and agricultural practices contribute, but partially unexplained.

Recommendations: If Iowa could establish greenbelts along streams, the possibility of range expansion of this species would exist. This would also offer the eventual option of re-introduction of transplanted animals.

Order: Carnivora

Family: Felidae

★ Mountain Lion Felis concolor (Jackson) Status: Extirpated

Range in North America: North British Columbia, south through western states to southern Mexico, along Gulf Coast to Louisiana and Arkansas. A population is known in southern Florida. Now restricted to wilderness areas.

Former Range in Iowa: Most wooded areas of state, probably extirpated in early settlement days. Occasional reports from northeast Iowa persist. None have been authenticated and no breeding records have been established.

Reason for Extirpation: Competition with man. This species preys mainly on deer; with increase in Iowa's deer herds, the possibility exists for limited reestablishment of parts of former range.

★ Lynx Lynx canadensis (Kerr) Status: Extirpated

Range in North America: Western Alaska south to northwest Pacific coast states, across wooded portions of Canada and northern United States.

Range in Iowa: Formerly probably occurred in northern Iowa and southward along forested river valleys prior to settlement; known from a single specimen.

Habitat: Forested areas; these were not common in this part of the country prior to settlement.

Reason for decline: Disappeared as the state was settled.

★ Bobcat Lynx rufus (Schreber) Status: Endangered

Range in North America: Most continental United States and southern Canada with the exception of the agricultural areas of South Dakota, east to Ohio and south to Tennessee.

Range in Iowa: Hardwood forest region of northeast Iowa; occasional reports in heavily wooded areas in remainder of state.

Habitat: Heavy forest cover, preferably second growth with much underbrush, broken with cliffs and clearings.

Reason for decline: Destruction of habitat and persecution by man.

Order: Artiodactyla

Family: Cervidae

- * Wapiti
American Elk Cervus elaphus (Erxleben) Status: Extirpated
- Range in North America: Scattered localities in western United States and Canada.
- Former Range in Iowa: Formerly abundant in tall grass prairies in western and central Iowa. Probably disappeared from Iowa around 1871 (Bowles, 1971).
- Reason for Decline: Slaughter by man, especially during the blizzard of 1855-1857 and 1871 (Bowles, 1971).
- * Bison
Buffalo Bison bison (Linnaeus) Status: Extirpated
- Range in North America: No longer found natively.
- Former Range in Iowa: Tall grass prairies throughout state. Vanished by 1870 (Bowles, 1971).
- Reason for Decline: Slaughtered by settlers.
- * Pronghorn Antilocarpa americana (Ord) Status: Extirpated
- Range in North America: Western United States from southern Canada south through western North Dakota to Mexico, west to Oregon and California.
- Former Range in Iowa: Western part of state (see Jones, 1964, Bowles, 1971). Never common as Missouri River acted as a barrier.
- Habitat: Prairies.

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A P P E N D I X I

CHAPTER 109A
MANAGEMENT AND PROTECTION OF ENDANGERED PLANTS
AND WILDLIFE

Referred to in §109.1

109A.1	Definitions.	109A.6	Species not on list.
109A.2	Co-operation with federal government.	109A.7	Special care to ensure survival.
109A.3	Investigations.	109A.8	Damage to property or human life.
109A.4	Programs.	109A.9	Exemptions.
109A.5	Prohibitions.	109A.10	Penalties.

109A.1 Definitions. As used in this chapter:

1. "*Commission*" means the state conservation commission.

2. "*Director*" means the director of the state conservation commission.

3. "*Endangered species*" means any species of fish, plant life, or wildlife which is in danger of extinction throughout all or a significant part of its range. "Endangered species" does not include a species of insecta determined by the commission or the secretary of the United States department of interior to constitute a pest whose protection under this Act would present an overwhelming and overriding risk to man.

4. "*Fish*" or "*wildlife*" means any member of the animal kingdom, including any mammal, fish, amphibian, mollusk, crustacean, arthropod, or other invertebrate, and includes any part, product, egg, or offspring, or the dead body of parts thereof. Fish or wildlife includes migratory birds, nonmigratory birds, or endangered birds for which protection is afforded by treaty or other international agreement.

5. "*Import*" means to bring into, or introduce into, or attempt to bring into, or attempt to introduce into, any place subject to the jurisdiction of this state.

6. "*Person*" means person as defined in section 4.1, subsection 13.

7. "*Plant*" or "*plant life*" means any member of the plant kingdom, including seeds, roots, and other parts thereof.

8. "*Species*" includes any subspecies of fish, plant life, or wildlife and any other group of fish, plants, or wildlife of the same species or smaller taxa in common spatial arrangement that interbreed or cross-pollinate when mature.

9. "*Take*", in reference to fish and wildlife, means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect and it includes an attempt to engage in any such conduct.

10. "*Take*", in reference to plants, means to collect, pick, cut, dig up or destroy in any manner.

11. "*Threatened species*" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. [66GA, ch 109,§1]

109A.2 Co-operation with federal government. The commission shall perform those acts necessary for the conservation, protection, restoration, and propagation of endangered and threatened species in co-operation with

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the federal government, pursuant to Public Law 93-205, and pursuant to rules promulgated by the secretary of the interior. [66GA, ch 109,§2]

109A.3 Investigations. The director shall conduct investigations on fish, plants, and wildlife in order to develop information relating to population, distribution, habitat needs, limiting factors, and other biological and ecological data to determine management measures necessary for their continued ability to sustain themselves successfully. On the basis of these determinations and other available scientific and commercial data, which may include consultation with scientists and others who may have specialized knowledge, learning, or experience, the commission shall pursuant to chapter 17A promulgate a rule listing those species of fish, plants, and wildlife which are determined to be endangered or threatened within the state.

The commission shall review the state list of endangered and threatened species at least every two years and may amend the list. [66GA, ch 109,§3]

Referred to in §§109A.4, 109A.5, 109A.6

109A.4 Programs. The director shall establish programs, including acquisition of land or aquatic habitat, necessary for the management of endangered or threatened species.

In carrying out the programs authorized by this section, the commission may enter into co-operative agreements with federal and state agencies, political subdivisions of the state, or with private persons for the administration and management of any area or program established under this section or for investigation as outlined in section 109A.3. [66GA, ch 109,§4]

109A.5 Prohibitions. Except as otherwise provided in this chapter, a person shall not take, possess, transport, import, export, process, sell or offer for sale, buy or offer to buy, nor shall a common or contract carrier transport or receive for shipment, any species of fish, plants, or wildlife appearing on the following lists:

1. The list of fish, plants, and wildlife indigenous to the state determined to be endangered or threatened within the state pursuant to section 109A.3.
2. The United States list of endangered or threatened native fish and wildlife as contained in the code of federal regulations, Title 50, part 17 as amended to December 30, 1974.
3. The United States list of endangered or threatened plants as contained in the code of federal regulations, Title 50, part 17 as amended to December 30, 1974.
4. The United States list of endangered or threatened foreign fish and wildlife as contained in the code of federal regulations, Title 50, part 17 as amended to December 30, 1974.

5. A species of fish, plant, or wildlife appearing on any of the lists which enters the state from another state or from a point outside the territorial limits of the United States may enter, be transported, possessed and sold in accordance with the terms of a federal permit issued pursuant to Public Law 93-205 or an applicable permit issued under the laws of another state. [66GA, ch 109,§5]

109A.6 Species not on list. The commission may, by rule, treat any species as an endangered species or threatened species even though it is not listed pursuant to section 109A.3 if it finds that the species so closely resembles in appearance a species which is listed pursuant to section 109A.3 and that enforcement personnel would have substantial difficulty in attempting to differentiate between the listed and unlisted species, and the effect of this substantial difficulty is an additional threat to an endangered or threatened species, or finds that the treatment of an unlisted species will substantially facilitate the enforcement and further the intent of this chapter. [66GA, ch 109,§6]

109A.7 Special care to ensure survival. The director may permit the taking, possession, purchase, sale, transportation, importation, exportation, or shipment of endangered or threatened species which appear on the state list for scientific, zoological, or educational purposes, for propagation in captivity of such fish, plants, or wildlife, to ensure their survival. [66GA, ch 109,§7]

109A.8 Damage to property or human life. Upon good cause shown and where necessary to reduce damage to property or to protect human health, endangered or threatened species found on the state list may be removed, captured, or destroyed, but only pursuant to a permit issued by the director. [66GA, ch 109,§8]

109A.9 Exemptions. This chapter shall not prohibit:

1. The importation of a trophy under a permit issued pursuant to Public Law 93-205 which is not for resale and which was lawfully taken in a manner permitted by the laws of the state, territory, or country where the trophy was caught, taken, or killed.
2. The taking of a threatened species when the commission has determined that its abundance in the state justifies a controlled harvest not in violation of federal laws or regulations. [66GA, ch 109,§9]

109A.10 Penalties. Whoever violates any of the provisions of this chapter shall be fined not less than ten dollars nor more than one hundred dollars or be imprisoned in the county jail not more than thirty days. [66GA, ch 109,§10]

