

Ermine, Kodiak Island

Mustela erminea kadiacensis

Class: Mammalia

Order: Carnivora

Conservation Status

Heritage Agency

G Rank: G5T4

USFWS/NOAA:

BLM:

AA:

S Rank: S4

SOA: Species of Greatest Conservation Need

USFS:

IUCN:

Final Rank		
Conservation category: VII. Yellow		
VII = low status and high biological vulnerability and action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status:	-20 to 20	-5
Biological:	-50 to 50	-10.4
Action:	-40 to 40	8
Higher numerical scores denote greater concern		

Status - variables measure the trend in a taxon's population status or distribution. Higher status scores denote taxa with known declining trends. Status scores range from -20 (increasing) to 20 (decreasing).

	Score
<i>Population Trend (-10 to 10)</i>	0
Unknown. As with most predators, fluctuations in prey numbers create corresponding fluctuations in weasel numbers.	
<i>Distribution Trend (-10 to 10)</i>	-5
Unlikely that distribution has changed over the last 50 years (Pyle, USFWS, personal communication).	
Status Total:	-5

Biological - variables measure aspects of a taxon's distribution, abundance and life history. Higher biological scores suggest greater vulnerability to extirpation. Biological scores range from -50 (least vulnerable) to 50 (most vulnerable).

	Score
<i>Population Size (-10 to 10)</i>	-2
Abundance of Kodiak Island ermine is poorly known. Clark (1958) found them to be common on all of the large islands in the archipelago. Feuer (1958) observed them frequently around a Fish and Wildlife camp at Karluk Lake. According to Pyle (USFWS, personal communication), the most probable estimate is 3000 to 10000 based on the amount of suitable habitat and the reported average size of home ranges.	
<i>Range Size (-10 to 10)</i>	-2
Subspecies kadiacensis is endemic to the Kodiak Islands group, located in the Gulf of Alaska south of the Kenai Peninsula. The archipelago consists of 13 islands and many islets, with a total area of about 5,000 square miles (12,950 sq. km). Kodiak Island, the largest of the group, has an area of 3,588 square miles. <i>M. e. kadiacensis</i> has been observed throughout the archipelago (Clark 1958, Zwiefelhofer pers. comm.).	
<i>Population Concentration (-10 to 10)</i>	2
Does not concentrate. Primarily solitary animals except during the mating and whelping season. Home ranges of males are two to six times larger than females, and may overlap those of several females (Fagerstone 1987). Home ranges averaged 12-16 ha in Wisconsin (Jackson 1961). In southern Ontario, home ranges averaged 20-25 ha for males, smaller for females (Simms 1979b). Home range size varies with latitude; more southerly home ranges tend to be smaller than those in the north (Fagerstone 1987). In Alaska, population densities of 20 weasels/sq. mile (7.8/km sq.) have been recorded; however, less than 10/sq. mi. is more typical under good habitat conditions. Occurs on 13 plus islands in Kodiak Archipelago.	

Reproductive Potential

Age of First Reproduction (-5 to 5) -5

Females sexually mature at 3-4 months, males likely at 12 months. Females may survive for at least two breeding seasons; males generally do not survive this long.

Number of Young (-5 to 5) 0.6

One litter of 4-13 (average of 6; but 4-8 is the usual number) young born usually in April/May in North America (King 1983, Fagerstone 1987).

Ecological Specialization

Dietary (-5 to 5) 1

Carnivore. Consumes mainly small mammals, especially voles (*Microtus* spp., *Clethrionomys* spp.) and mice (*Peromyscus* spp.; Fagerstone 1987). Shrews and rabbits may also be taken and occasionally other small vertebrates and insects.

Habitat (-5 to 5) -5

Adapted to a wide variety of habitats. Prefers wooded areas with thick understory near watercourses.

The northeastern islands of the Kodiak archipelago are dominated by Sitka spruce coastal forests, grading to tundra, alder and willow habitats on southwestern Kodiak Island. *M. e. kadiacensis* builds dens in fallen logs, rock piles or debris, and has been observed throughout the islands, including areas of human habitation (Clark 1958, Feuer 1958), and may be seen most often in tundra habitats (Zwiefelhofer pers. comm.).

Biological Total: -10

Action - variables measure current state of knowledge or extent of conservation efforts directed toward a given taxon. Higher action scores denote greater information needs due of lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs).

Score

Management Needs (-10 to 10) 2

Harvest is likely minimal but also minimally managed by ADF&G and subsistence harvest by USFWS; apparently little if any protection from trapping in National Monuments and National Wildlife Refuges, as normal subsistence and/or sport trapping regulations apply there.

Monitoring Needs (-10 to 10) 2

Overall trend for this species is unknown. Trappers questionnaires provide some insight into population fluctuations. To our knowledge, no other monitoring programs are in effect.

Research Needs (-10 to 10) 2

Moderate threats exist from high reliance on fluctuating prey populations. Restricted range of this subspecies increases its vulnerability to threats and disturbances. Habitat is protected in Kodiak National Wildlife Refuge.

Research needs include: Studies of population dynamics in relation to prey populations are needed. Methods for estimating population size should be studied and improved.

Survey Needs (-10 to 10) 2

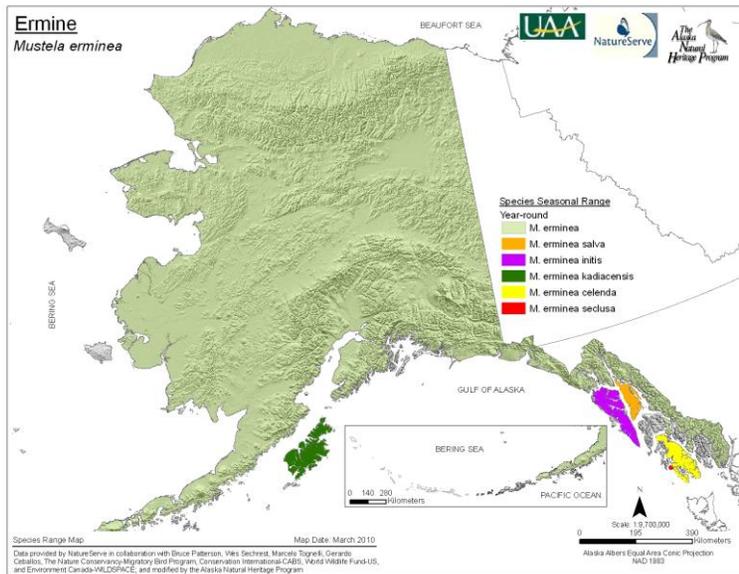
Distribution is currently known from range maps and trapper reports. Habitats specific to Kodiak Island are well documented. 3 specimens collected (Arctos 2007).

Action Total: 8

Supplemental Information - variables do not receive numerical scores. Instead, they that are used to sort taxa to answer specific biological or managerial questions.

Harvest:	Substantial, regulations
Seasonal Occurrence:	Year-round
Taxonomic Significance:	Subspecies
% Global Range in Alaska:	>10%
% Global Population in Alaska:	>25%
Peripheral:	No

Range Map



References

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For details on the development of the ASRS and criteria, please see: Gotthardt, T. A., K. M. Walton, and T. L. Fields. 2012. Setting Conservation Priorities for Alaska's Wildlife Action Plan. Alaska Natural Heritage Program, University of Alaska Anchorage, AK.