

## Arctic ground squirrel, Aleutian

*Spermophilus parryii ablusus*

Class: Mammalia

Order: Rodentia

### Conservation Status

Heritage Agency

G Rank: GNR

USFWS/NOAA:

BLM:

AA:

S Rank: SNR

SOA: Species of Greatest Conservation Need

USFS:

IUCN:

Final Rank		
Conservation category: <b>VIII. Yellow</b>		
VIII = low status and either high biological vulnerability or high action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status:	-20 to 20	-11
Biological:	-50 to 50	-29.9
Action:	-40 to 40	28
<b>Higher numerical scores denote greater concern</b>		

**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>	-6
Unknown but likely stable.	
<i>Distribution Trend (-10 to 10)</i>	-5
Possibly increasing - Ground squirrels were introduced to Unalaska Island, Kavalga Island and Umnak Island before 1900 from Nushagak stocks.	
Status Total:	-11

**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>	0
Unknown	
<i>Range Size (-10 to 10)</i>	-6.5
Ablusus occurs in southcentral AK in Talkeetna, Anchorage, and the Yenlo Hills, the Alaska Peninsula and the Seward Peninsula. A substantial split exists between populations in Southwestern AK and those found in interior AK (west, central). Hall (1981) depicted a zone of contact between ablusus and plesius in central AK; however, contact between the two groups has not been verified. According to Hall (1981), ablusus occurs from Kotzebue Sound and the Seward Peninsula southward to the Alaska Peninsula (see not above about intervening populations), and eastward to the head of Cook Inlet. Ground squirrels were introduced to Unalaska Island, Kavalga Island and Umnak Island before 1900 from Nushagak stocks.	
<i>Population Concentration (-10 to 10)</i>	-9
Social animals that live in colonies of 5-50 members.	
<i>Reproductive Potential</i>	
<u>Age of First Reproduction (-5 to 5)</u>	-5
Both sexes reach maturity by their second spring; females produce one litter per year (Nagorsen 2005).	

<u>Number of Young (-5 to 5)</u>	0.6
Mates in May soon after emerging from hibernation. Litter of 5-10 young is born in late June, weaned at 20 days (Whitaker 1980).	
<i>Ecological Specialization</i>	
<u>Dietary (-5 to 5)</u>	-5
Eats stems and leaves, seeds, fruits, and roots of grasses, sedges, and other green plants, as well as woody plants and mushrooms. Stores food (seeds, willow leaves, bog rush fruit) in burrow for consumption in spring. Sometimes preys on collared lemmings and young snowshoe hares.	
<u>Habitat (-5 to 5)</u>	-5
Tundra, subalpine brushy meadows, roadsides, riverbanks, lakeshores, sandbanks; not in permafrost areas. Well-drained habitats often associated with sand dunes or eskers. Digs extensive burrow system that may be used for many years; most tunnels are not more than 3 feet deep, with several entrances.	
Biological Total: <hr style="display: inline-block; width: 50px; vertical-align: middle;"/> -30	

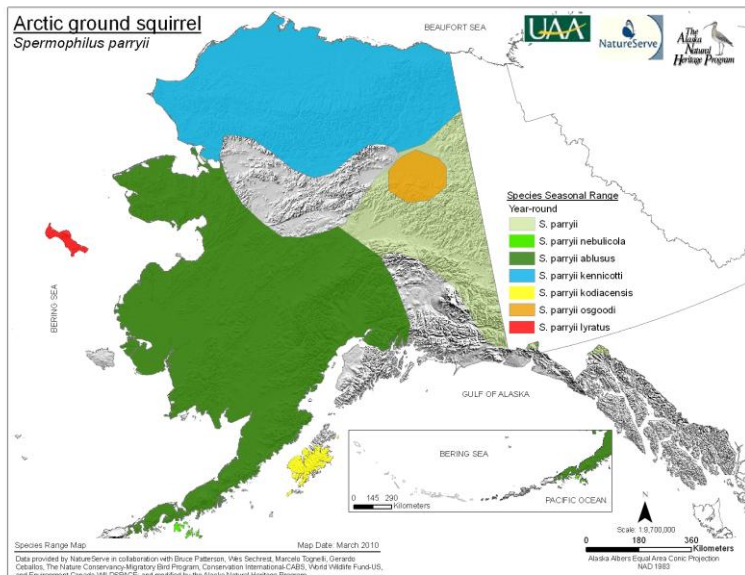
**Action** - variables measure current state of knowledge or extent of conservation efforts directed toward a given taxon. Higher action scores denote greater information needs due of lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs). **Score**

<i>Management Needs (-10 to 10)</i>	10
No specific protection; ground squirrels may be hunted throughout the state without regulation (no closed season or bag limits).	
Management and stewardship needs are unknown.	
<i>Monitoring Needs (-10 to 10)</i>	10
Inventories are needed to determine the full range and current status of this taxon, with a focus on native and non-native island populations.	
<i>Research Needs (-10 to 10)</i>	6
Taxonomic distinctiveness of this form needs to be clarified. Both food and predators interact to limit Arctic ground squirrel populations during the peak and early decline of the hare cycle. The snowshoe hare cycle may indirectly create a lagged secondary fluctuation in arctic ground squirrel populations through shared cyclic predators. Heavy metal contamination in arctic environments. Exotic populations occur on Unalaska, Kavalga, and Umnak islands. Their current status and threat to native flora and fauna are unknown.	
<i>Survey Needs (-10 to 10)</i>	2
General distribution is known from locations throughout their range; more than 30 specimens (Arctos 2007). Habitat relationships understood at the species level.	
Action Total: <hr style="display: inline-block; width: 50px; vertical-align: middle;"/> 28	

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

<b>Harvest:</b>	Not substantial
<b>Seasonal Occurrence:</b>	Year-round
<b>Taxonomic Significance:</b>	Subspecies
<b>% Global Range in Alaska:</b>	>10%
<b>% Global Population in Alaska:</b>	>25%
<b>Peripheral:</b>	No

**Range Map**



## References

- Alaska Department of Fish and Game (ADFG). 2007a. 2007-2008 Alaska hunting regulations: fur animals, small game, unclassified game and deleterious exotic wildlife.
- ARCTOS, University of Alaska Museum of the North. 2007. ARCTOS database: Fish, amphibian, mammal, bird and reptile collections. University of Alaska, Fairbanks, AK. Available online at <http://arctos.database.museum/SpecimenSearch.cfm>. Accessed 14Feb2007.
- Byrom, A. E., T. J. Karels, C. J. Krebs, and R. Boonstra. 2000. Experimental manipulation of predation and food supply of arctic ground squirrels in the boreal forest. *Can.J. Zool.* 78:1309-1319.
- Eddindsaas, A. A., B. K. Jacobsen, E. P. Lessa, and J. A. Cook. 2004. Evolutionary history of the arctic ground squirrel (*Spermophilus parryii*) in nearctic beringia. *J. Mammal.* 85:601-610.
- Hall, E. R. 1981. *The Mammals of North America*, Vols. I & II. John Wiley & Sons, New York, New York. 1181 pp.
- Hubbs, A.H. and R. Boonstra. 1997. Population limitation in arctic ground squirrels: effects of food and predation. *J. Animal Ecology* 66:527-541.
- Nadler, C. F. and R. S. Hoffman. 1977. Patterns of evolution and migration in the arctic ground squirrel, *Spermophilus parryii* (Richardson). *Can. J. Zoo.* 55:748-758.
- Nagorsen, D. W. 2005. Rodents and lagomorphs of British Columbia. Volume 4: *The Mammals of British Columbia*. The Royal British Columbia Museum, Victoria, B.C.
- NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life. Version 5.0. NatureServe, Arlington, VA. Available <http://www.natureserve.org/explorer>.
- Whitaker, J. O., Jr. 1980. *The Audubon Society field guide to North American mammals*. Alfred A. Knopf, New York. 745 pp.

Version date: 12/20/2012

Report authors: K. Walton, T. Gotthardt, and T. Fields  
 Alaska Natural Heritage Program  
 University of Alaska Anchorage  
 Anchorage, AK 99501

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.