

Mammal Inventory of Alaska's National Parks and Preserves

Wrangell-St. Elias National Park and Preserve

Annual Report 2001-2002

Idaho State University

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2 January 2003

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Introduction

This report details an inventory of the small mammals of the Wrangell-St. Elias National Park and Preserve (WRST) in July and August of 2001 and August 2002. The Beringian Coevolution Project at Idaho State University (ISU) worked collaboratively with the Inventory and Monitoring Program of the National Park Service, Alaska, and the University of Alaska Museum (UAM) to conduct an inventory at selected sites throughout the Park to document the occurrence, relative abundance, and general habitat affinities of the small mammal fauna. This effort is beginning to provide a large series and variety of permanently preserved materials and associated data sets for taxonomic, zoogeographic, ecological, genetic, parasitological, epidemiological, and other research and management purposes. Because the fauna of Alaska is the least studied of the continent, these NPS inventories are an important contribution to our understanding of mammalian diversity. The mammal fauna of the Wrangel-St. Elias Park and Preserve is typical of the Nearctic realm, although heavily influenced by the Beringian refugium which was at the crossroads between North America and Asia. Hence, this fauna reflects extensive interchange with Asian elements as recently as 12,000 years ago. Several groups of mammals are common in both the Old and New World northern latitudes and these occur on National Park Service lands in Alaska (e.g., among rodents: ground squirrels (*Spermophilus*), marmots (*Marmota*), and voles (*Microtus*)). The dynamic geologic and climatic history that this region has experienced provides an important context for understanding the fauna of WRST which is comprised of relatively recent immigrant species from diverse regions. Well documented species distributions will also provide a context for interpreting of the magnitude of the impact from predicted climate change at these northern latitudes (Parmesan and Yohe 2003, Root et al. 2003).

The documentation of species' occurrence in WRST was complemented by a review of specimen holdings at the University of Alaska Museum and other major collections, including the U.S. National Museum (USNM) and the American Museum of Natural History (AMNH). Scientific and common names of mammals used in this report follow Wilson and Reeder (1993) and Wilson and Cole (2000), respectively. Vegetation classification generally follows Viereck et al. (1992).

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Results

The discovery of the tiny shrew (*Sorex yukonicus*) at Carden Hills and Braye Lakes constitutes a new species for WRST. This study also provides the first documentation of the water shrew (*Sorex palustris*), tundra shrew (*S. tundrensis*), and singing vole (*Microtus miurus*) in WRST, and provides new information on several other species, including hoary marmot (*Marmota caligata*), meadow vole (*Microtus pennsylvanicus*), long-tailed vole (*M. longicaudus*), brown lemming (*Lemmus trimucronatus*), and northern bog lemming (*Synaptomys borealis*).

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More survey work is needed north of the Nutzotin Mountains. An Interior species likely present there is taiga vole. Also possible present is meadow jumping mouse and perhaps woodchuck (*Marmota monax*), a lowland marmot of the Tanana Valley.

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Brain tissue, *Marmota*: Collect some brain tissue for freezing (lavender caplet).

Table 2. Checklist of the land mammals of *Wrangell-St. Elias National Park and Preserve, Alaska*.
Current status: ● = present and substantiated with vouchered specimen, ○ = present or probably present but not substantiated with a voucher specimen, ? = probable but verifiable information lacking.

INSECTIVORA - Shrews

Family Soricidae

- *Sorex cinereus*, cinereus shrew
- *S. hoyi*, pygmy shrew
- *S. monticolus*, montane shrew
- *S. palustris*, water shrew
- *S. tundrensis*, tundra shrew
- *S. yukonicus*, tiny shrew

CHIROPTERA - Bats

Family Vespertilionidae

- *Myotis lucifugus*, little brown bat

CARNIVORA - Carnivores

Family Canidae

- *Canis latrans*, coyote
- *C. lupus*, wolf
- *Vulpes vulpes*, red fox

Family Felidae

- *Lynx canadensis*, Canada lynx
- ? *Puma concolor*, puma

Family Mustelidae

- *Gulo gulo*, wolverine
- *Lontra canadensis*, northern river otter
- *Martes americana*, American marten
- *M. erminea*, ermine
- *M. nivalis*, least weasel
- *M. vison*, American mink

Family Ursidae

- *Ursus americanus*, American black bear
- *U. arctos*, brown bear

ARTIODACTYLA - Ungulates

Family Cervidae

- *Alces alces*, moose

- *Rangifer tarandus*, caribou

Family Bovidae

- *Bison bison*, American bison (*introduced*)
- *Oreamnos americanus*, mountain goat
- *Ovis dalli*, Dall's sheep

RODENTIA - Rodents

Family Sciuridae

- *Glaucomys sabrinus*, northern flying squirrel
- *Marmota caligata*, hoary marmot
- *Spermophilus parryi*, arctic ground squirrel
- *Tamiasciurus hudsonicus*, red squirrel

Family Castoridae

- *Castor canadensis*, American beaver

Family Dipodidae

- *Zapus hudsonius*, meadow jumping mouse

Family Muridae

- *Clethrionomys rutilus*, northern red-backed vole
- *Lemmus trimucronatus*, brown lemming
- *Microtus longicaudus*, long-tailed vole
- *M. miurus*, singing vole
- *M. oeconomus*, tundra vole
- *Microtus pennsylvanicus*, meadow vole
- *M. xanthognathus*, taiga vole
- *Ondatra zibethicus*, muskrat
- *Synaptomys borealis*, northern bog lemming

Family Erethizontidae

- *Erethizon dorsatum*, North American porcupine

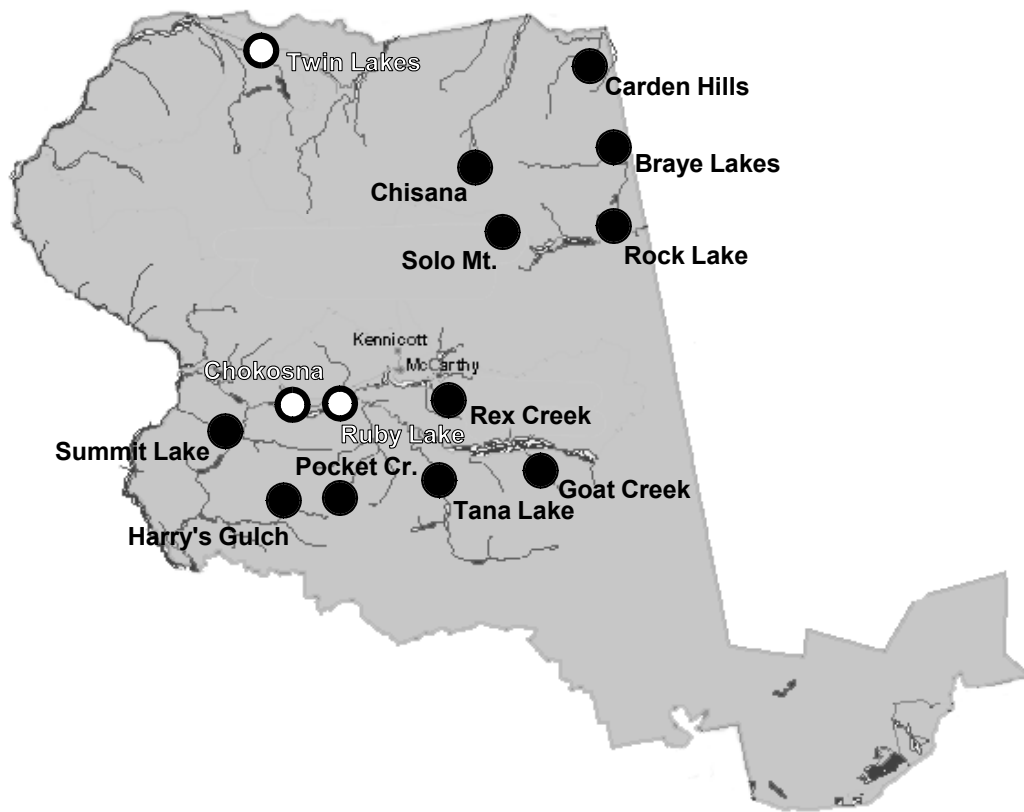
LAGOMORPHA - Pikas & Hares

Family Ochotonidae

- *Ochotona collaris*, collared pika

Family Leporidae

- *Lepus americanus*, snowshoe hare



LEGEND:

2001:

- Braye Lakes (62° 01'N, 141° 07'W): 24-28 July 2001
- Carden Hills (62° 18'N, 141° 10'W): 20-24 July 2001
- Chisana (62° 03'N, 142° 02'W): 17-20 July 2001
- Goat Creek (61° 00'N, 142° 02'W): 6-10 August 2001
- Harry's Gulch (61° 04'N, 143° 54'W): 2-6 August 2001
- Pocket Creek (61° 04'N, 143° 22'W): 29 July-2 August 2001
- Rex Creek (61° 18'N, 142° 31'W): 29 July-2 August 2001
- Rock Lake (61° 47'N, 141° 12'W): 20-24 July 2001
- Solo Mountain (61° 50'N, 141° 50'W): 24-28 July 2001
- Summit Lake (61° 19'N, 144° 14'W): 6-10 August 2001
- Tana Lake (61° 00'N, 142° 45'W): 2-6 August 2001

2002:

- Chokosna Lake (61° 27'N, 143° 47'W): 3-5 August 2002
- Ruby Lake (61° 22'N, 143° 26'W): 5-6 August 2002
- Twin Lakes (62° 32'N, 143° 15'W): 6-9 August 2002

Figure 1. General localities in Wrangell-St. Elias NP&P, Alaska, sampled for small mammals in 2001 (closed circle) and 2002 (open circle).

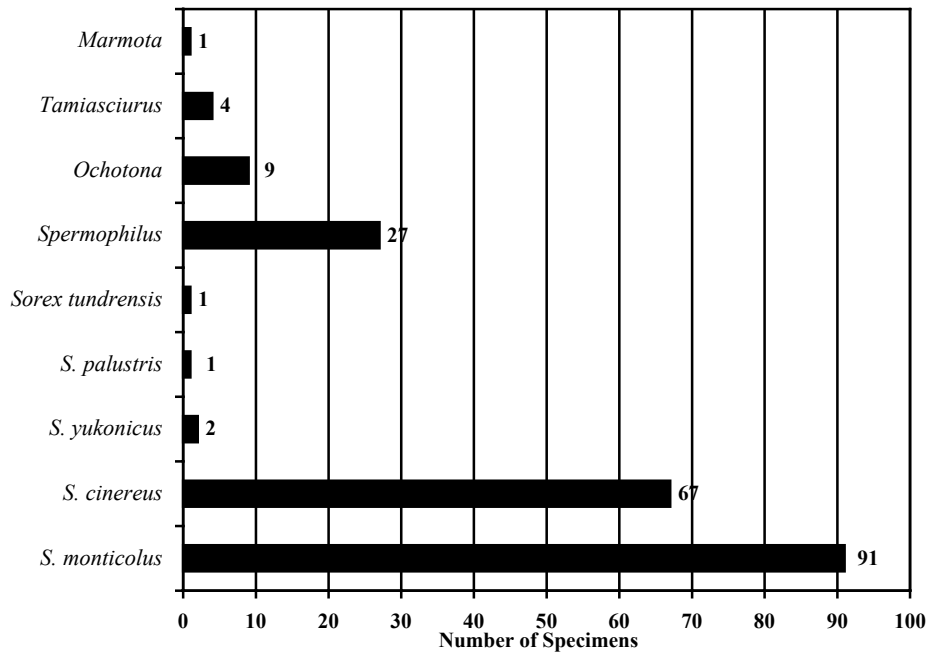


Figure 2a. Total number of shrew, squirrel, and pika specimens sampled in Wrangell-St. Elias NP&P, Alaska, in July and August, 2001 and 2002.

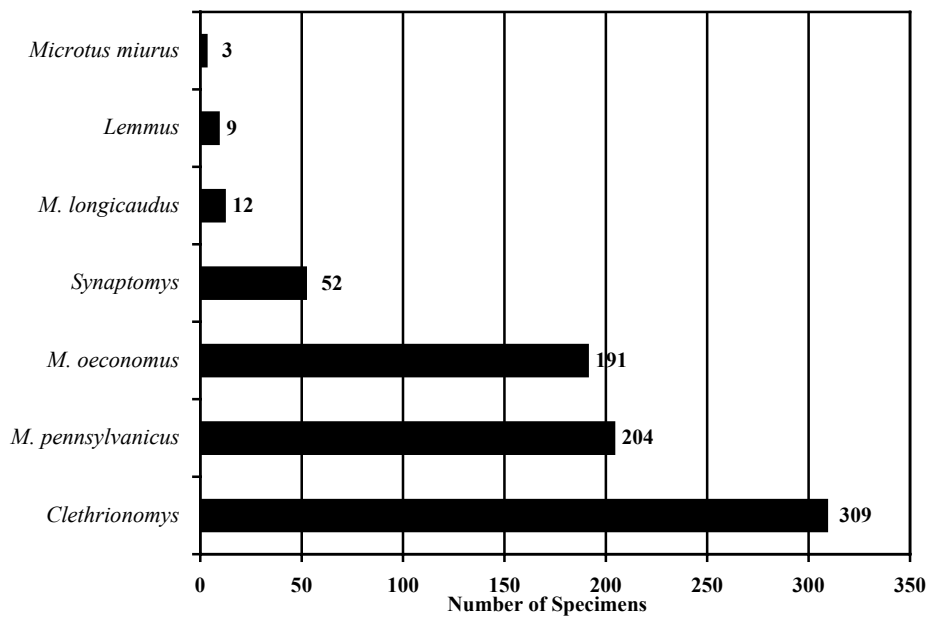


Figure 2b. Total number of vole and lemming specimens sampled in Wrangell-St. Elias NP&P, Alaska, in July and August, 2001 and 2002.