A PRELIMINARY SURVEY OF PALEONTOLOGICAL RESOURCES FROM THE ALASKA REGION NATIONAL PARKS

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INTRODUCTION

The National Park Service manages extensive areas within Alaska. Stratigraphically, sedimentary rocks range from the Proterozoic through the recent. Isolated reports suggest a wealth of paleontological resources occurring in some of the Alaskan National Parks. Comprehensive paleontological surveys are difficult due to the vast acreage and limited access. To date, the scope and distribution of paleontological resources in the Alaska Region parks is poorly understood.

This preliminary report is an attempt to summarize the available data for known paleonotological resources in the Alaskan National Parks. Information will continue to be compiled in order to produce a more complete final published report documenting paleontological resources.

A Research Proposal has been submitted along with this report. The proposal is directed towards the establishment of a pilot paleontological resource survey that will initiate in conjunction with the ongoing Alaskan Coastline Resource Surveys.

The objective is to compile paleontological resource baseline data to facilitate both resource management and protection. This information will be valuable in providing baseline fossil resource data for park and regional office staff, as well as for future researchers.

A brief summary of available information is provided for each Alaska Region unit. Lack of available data does not necessary indicate the lack of significant paleontological resources in any of these units. Our hope is to promote greater research interests and expand the understanding of a paleontological resource that will almost certainly to prove to be extensive.

ANIAKCHAK NATIONAL MONUMENT

The only known paleontological resources include paleobotanical material discovered in cores of Lake Idavain.

BERING LAND BRIDGE NATIONAL PRESERVE

The preserve contains 2.69 million acres of land. The northern Seward Peninsula has not been glaciated for over 100,000 years and has a high potential for paleontological resources. Pleistocene mammal remains, insects, leaves, pollen and coalified wood has been reported from the preserve. Mammoth material has been found including a reference of a juvenile mammoth in the collections at the Colorado School of Mines. Mammoth and walrus ivory is scattered throughout the preserve and is occasionally collected by Native Americans. A Pleistocene beaver dam is reported from the preserve (Newman, 1978).

Cape Deceit - coastal locality just east of preserve boundary that contains some of the earliest North American records of certain species of animals.

Cape Espenberg - coastal site with Pleistocene flora and fauna including marine fossils preserved during glacial cycles.

Goodhope River - late Pleistocene faunal remains found on gravel bars along the river including mammoth teeth, tusks, etc.

Imuruk Lake - rich fossil pollen record from core samples extend back 100,000 years. The record provides valuable data regarding vegetational changes during glacial cycles.

Inmachuk & Kugruk Rivers - fossil plant material found in river gravel below a Pliocene lava provide information on a warm climate vegetation. Late Tertiary beetles are abundant at these sites.

Kuzitrin Flats - a gravel deposit spans Miocene through Pleistocene in age. Older deposits contain fossil pollen and wood suggesting a temperate forest of hardwoods and conifers. Younger Pleistocene deposits include mammoth, bison and horse. Fossil plant associations demonstrate cold and warm climatic cycles in the late Pleistocene.

Trail Creek - mammoth scapula excavated from cave and radio-carbon dated at 11,360 $\pm$ 100 years B.P.

DENALI NATIONAL PARK

The current knowledge of paleontological resources at Denali is limited. A collection of Paleozoic marine invertebrates and late tertiary plant remains have been curated by park staff. A mammoth tooth was discovered west of Teklanika Ridge. Plant impressions include deciduous leaves such as birch and conifer stems and needles similar to *Sequoia*. Sites with marine invertebrates have been also reported from areas in the southern portion of the park.

GATES OF THE ARCTIC NATIONAL PARK & PRESERVE

Numerous fossil deposits occur within this unit. Fossil rich deposits range in age from the Devonian through the Cretaceous. Pleistocene deposits have yielded the remains of fossil bison and mammoth along the Middle Fork Koyukuk River. Devonian invertebrates including coral are located throughout the central Brooks Range and in the center of the park. The Lisburne Limestone (Mississippian/Pennsylvanian) contain brachiopods, corals, crinoids, blastoids, conodonts and occasional trilobites. This limestone is prevalent in the northern part of the park and fossils found along river cuts such as North and Middle Forks of the Koyukuk River. Cretaceous plant fossils have been found in the Fortress Mountain Formation in outcrops of the Castle/Fortress Mountain Unit of the park.

Bombardment Creek - Triassic marine fossils including *Monotis* and *Halobia* occur in the Shublik/Otuk Formation at the base of Mount Doonerak. Very fossiliferous exposures. Also found along Monotis Creek.

Karupa Lake - thin layer of Cretaceous limestone with the round shelled pelecypods *Buchia subclaveous* are found in the Okpikruak Formation.

Nigu River - Permian fossils including marine brachiopods, pelecypods and shark's teeth found in the Siksikpuk Formation along the river.

GLACIER BAY NATIONAL PARK

Information regarding paleontological resources is limited. Curated specimens include mainly marine invertebrates and a few paleobotanical specimens.

Cenotaph Island - numerous marine invertebrate specimens collected from this island in Lituya Bay.

KATMAI NATIONAL PARK

Reports of paleontological resources at Katmai are limited, however, there are curated fossils in the park collection. These specimens include invertebrates from Kagayuk Point and from the Valley of Ten Thousand Smokes. Most of the invertebrates are from Late Jurassic (Naknek Formation) and Cretaceous (Kaguyak Formation) exposures.

> **Kagayuk Point** - Upper Cretaceous fossil invertebrates including *Pachydiscus* sp. and *Inoceramus* sp. collected from this site.
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> **Naknek Lake** - leaf imprints and petrified wood have been collected from the lake beach near Brooks Camp.

KENAI FJORDS NATIONAL PARK

The only record of paleontological resources at Kenai Fjords National Park include accounts of ancient trees preserved in glacial ice.

LAKE CLARK NATIONAL PARK & PRESERVE

The park contains approximately 2.6 million acres and the preserve contains about 1.4 million acres. A paleontological survey of this unit has not been conducted. A significant Jurassic site is located along the coast called Fossil Point. The site has potential for both marine fossils and Pleistocene remains inland.

> **Fossil Point Jurassic Section** - site on west side of Cook Inletabout 56 miles southwest of Kenai. The type locality of the Tuxedni Group begins at Fossil Point with the Red GlacierFormation. Many fossils are present including *Grammatodon* sp., *Inoceramus lucifer*, *Oxytoma* sp., *Comptonectes* sp., *Thracia* sp., and many others. This faunal assemblage can be correlated with northwest European assemblages (Bajocian through Bathonian). The site is impacted by illegal fossil collecting. Proposed as a National Natural Landmark.

WRANGELL-ST. ELIAS NATIONAL PARK & PRESERVE

Devonian through Tertiary sediments are present in the park. The more significant fossil units include: the Permian Mankomen Group limestone with ammonites and brachiopods; the Permian Hansen Creek Limestone with horn corals; the early Cretaceous Chisana Formation with pelecypods; and tertiary coal deposits and plant fossil localities.

YUKON-CHARLEY RIVERS NATIONAL PRESERVE

This unit contains a remarkably rich and extensive fossil record ranging from the Proterozoic through the Pleistocene. Vertebrate fossils include ice age mammoth, bison and sheep. Invertebrates and paleobotanical fossils are abundant.

MIDDLETON ISLAND NATIONAL NATURAL LANDMARK

This island consists of approximately five square miles and is located in the Gulf of Alaska about 155 miles southwest of Anchorage. Important Plio-Pleistocene fossils occur at this locality. Incorporated into the National Natural Landmark Program.

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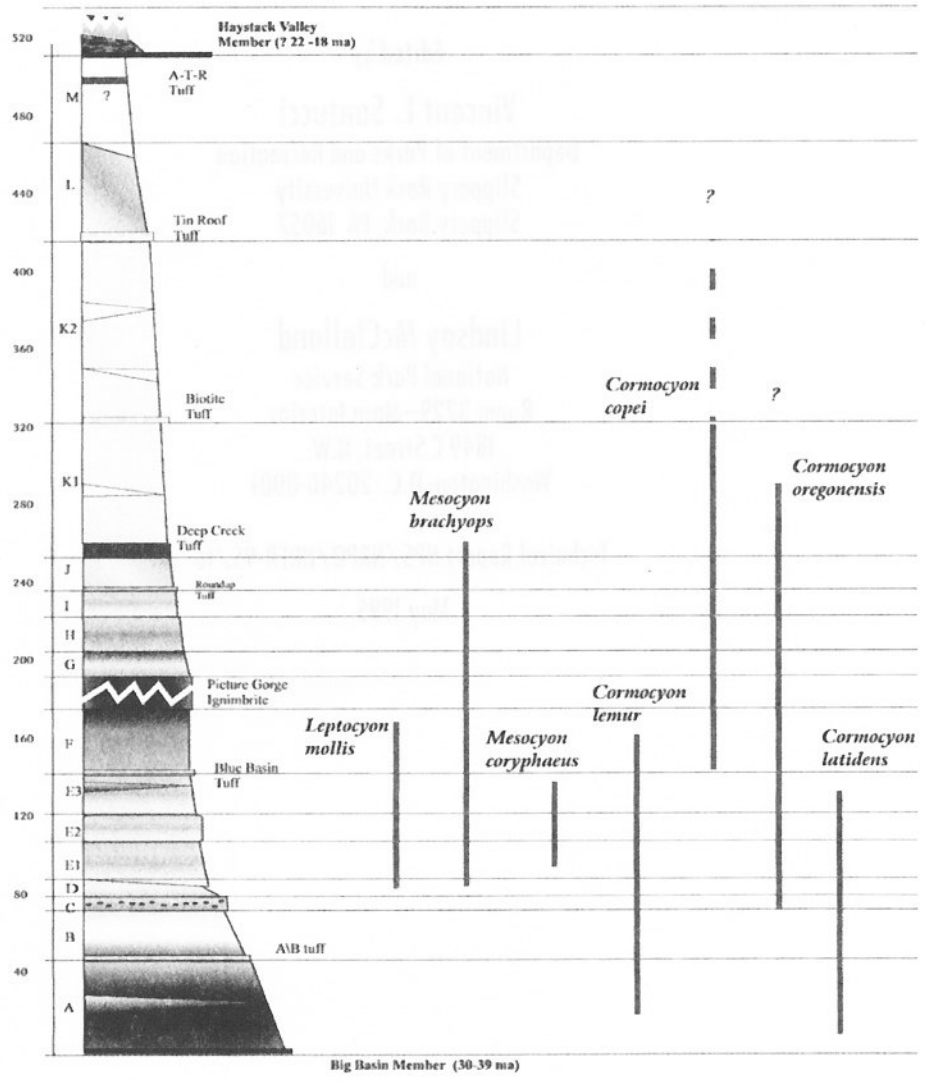
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National Park Service Paleontological Research

Edited by Vincent L. Santucci and Lindsay McClelland

Technical Report NPS/NRPO/NRTR-95/16



United States Department of the Interior • National Park Service • Natural Resources Publication Office