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COVER: Collecting dinosaur remains at the turn of the century
in the Badlands of Southern Alberta. Bones were
wrapped in strips of burlap dipped in plaster, after
drying boxed for shipment to Ottawa. Note horse
and muscle power of those days. Photo courtesy
National Museums of Canada, Ottawa.

Editorial - Fossils and the Law

Dr. Philip J. Currie, Curatorial Director

Tyrrell Museum of Paleontology, Drumheller, Alberta, Canada

Since the beginning of the century, the collection of fossil resources has been controlled in restricted areas by their inclusion within the boundaries of National, Provincial or State Parks.

Over the past decade, North America has seen a rapid increase in the passage of legislation to control the collection of fossils outside of the parks. Alberta, British Columbia, New Mexico and Utah, are four of the many provinces and states that now have laws restricting the indiscriminate collection of paleontological resources. The laws passed to date are quite varied in the extent of their powers and how restrictive they are. For example, in Saskatchewan it is illegal, without a permit, to collect any vertebrate fossil, no matter whether it is collected on the surface or in the bedrock. Alberta, on the other hand, permits the collection of fossil vertebrates provided they have been completely washed out of the bedrock. However, the Historical Resources Act in Alberta is more restrictive in that *in situ* plant and invertebrate fossils are protected also. Penalties for breaking the law range from \$500 in most provinces and states, up to a maximum of \$50,000 and/or one year in prison in Alberta. All legislation controlling the collection of fossils does have one thing in common though; it restricts the collection of fossils for scientific purposes, hobby or sale.

As the amount of legislation protecting fossil resources is steadily increasing, it is worthwhile to look at the reasons why this trend has come about, and to determine how fossil collectors can continue to pursue their professions and hobbies with minimal restrictions.

With the increased development of coal, oil and gas resources in the late 1960's and early 1970's, the need to protect

Portraits From The Field



Plate 1. Planning in repose - Dr. Currie.



Plate 2. Dr. Currie in the field.



Plate 3. Dinosaur Provincial Park, Site of Centrosaurus Bed, Canada.



Plate 4. Excavation work at the Centrosaurus bonebed, Dinosaur Provincial Park.

archaeological and historic resources was met in Alberta by the passage of the Historical Resources Act in 1973. By 1976 the Act had been amended to specifically include paleontological resources, and extended its powers over all but the federally controlled land within the provincial boundaries.

Because the industries cited are not likely to be deterred by a \$500 fine, and because the Alberta Government took the matter of preservation of historical resources very seriously, the fines were set at a maximum of \$50,000 and/or one year in prison.

Development firms are now required to submit a paleontological impact assessment in regions where fossils are likely to occur, before their construction permits are approved. One positive result of this is that many paleontological resources have been discovered during the course of paleontological impact assessments. For example, in 1977 Dome Petroleum was surveying for a pipeline across the Red Deer River. A paleontologist, Dr. Len Hills of the University of Calgary, was hired to look for paleontological resources along the surveyed route, and found a dinosaur skeleton. The skeleton was significant enough to merit excavation, and rather than delay the construction of the pipeline, the pipeline was simply moved to one side by 100 feet. The dinosaur was excavated during the summer of 1977.

Although the prime purpose for extending the powers of the Act in 1976 were based on the control of destruction of sites through development, all fossil collectors in the province also came under the jurisdiction of the Act.

Alberta has long been known to be a major site for the collection of fossil vertebrates, especially the world famous dinosaurs. Dinosaur fossils from this province have found their way into more than 35 institutions around the world, and Dinosaur Provincial Park in 1979 became the first paleontological site added to UNESCO's World Heritage Lists. Even though more than 500 major specimens had been excavated in Alberta, relatively few have remained in the province. The basic

problem was that there were no programs to collect and retain specimens of dinosaurs in Alberta until the late 1960's. As provincial programs developed during the 1970's, with the objective of collecting and exhibiting dinosaurs within Alberta, it was viewed as necessary to control the excavation of dinosaurs by outside agencies and the general public to the extent of ensuring that unique specimens remain under provincial control. This was a second purpose of the revised Historical Resources Act. A third purpose of the Act was to prevent the exploitation or monopolization of any paleontological resource to the extent that the resource is no longer available for scientific study or public enjoyment. To accomplish this, Alberta fossils collected now are by law, defined as the property of the Crown in right of the Province of Alberta, and the Government considers collections in both private homes and institutions only to be held by custodians. Surface collecting can still take place without a special permit, although major specimens involving excavation now required approved permits if they were to take place legally.

In order to deal with applications for permits in an unbiased manner, the Government of Alberta set up an Advisory Board whose membership includes representatives of the two major universities of the province, the government's own museum, the Geological Survey of Canada, a representative of the Canadian Society of Petroleum Geologists, and a representative of the amateur collectors in the province. The Alberta Paleontological Advisory Committee makes recommendations concerning permit applications, the protection of paleontological resources, the export of fossils, and anything effecting the safety or well being of paleontological resources.

Institutions from outside the province can come into Alberta and collect material. However, agreements are struck between the government and such institutions, so that unique specimens collected under permit remain in the province. Specimens already represented in the museums and universities of Alberta can be removed from the province provided they are placed in an institution with the facilities and staff to curate them properly.

An article in a recent issue of *Fossils Quarterly* ("Fossil Collecting in Alberta, Canada," Vol. 1, No. 3), indicates how amateur collectors can continue to work in Alberta.

Collectors like Dennis Wighton of Edmonton, Hope Johnson of Redcliffe and Betty Speirs of Red Deer, have made significant contributions to the history of paleontology of the province. They are given permits to excavate at specific sites. Normally, the material collected both from the excavations and surface finds is screened by one of the senior institutions in the province, and any material that is considered scientifically valuable is removed for cataloging and curation. The balance of the specimens collected under permit remain with the amateur who will often offer these fossils to other institutions. In other cases, amateurs have given up specimens in their collections in exchange for casts. These arrangements have fostered a spirit of co-operation that has been rewarding to both amateurs and professionals. Professional organizations usually do not have sufficient staff to cover all of the resource areas available. Co-operation with amateurs has resulted in institutions being able to greatly extend the range of investigation.

All-in-all, the Act in Alberta has accomplished its major objectives. Paleontological impact assessments and subsequent conditions on construction permits help protect significant resources from development. There now is a mechanism whereby a representative sample of paleontological resources remain in the province, but one which still permits institutions to collect in the rich fossil beds.

Only people with proper training and who are associated with institutions having major paleontological collections can be granted a permit to excavate fossil resources. This insures that significant specimens (such as dinosaurs) are not destroyed through collection by untrained persons, and that the future of these fossils is assured by incorporation into the collections of institutions that are able to curate the specimens properly. Because paleontological resources remain the property of the

Crown in right of Alberta, their collection and curation can be reviewed at any stage and changes can be made.

Although the passage of The Alberta Historical Resources Act was not very popular with professional and amateur paleontologists, it has served well to bring all concerned together through the Alberta Paleontological Advisory Committee. The community of fossil collectors itself now regulates and polices the Act far more effectively than the government law-makers or law-enforcers ever could.

Ultimately, however, the best protection of paleontological resources in Alberta or anywhere else will not come through legislation. Education and the development of a feeling of cooperation will produce a better understanding of the value of paleontological resources, and help in the discovery and development of the most significant resources.

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