

# Developing a State Wildlife Roadkill Identification Guide

Improving forensic data collection when monitoring wildlife mortality on state roads and highways.

## Introduction

Globally, transportation agencies are making increasingly larger and more comprehensive infrastructure investments to protect wildlife as part of their planning and design processes. State transportation agency decisions to support the wildlife protection investments are often based on historic roadkilled wildlife data collected by state natural resource and/or transportation agency staff or contractors.

Reliable roadkilled wildlife reporting requires three fundamental components: geographic location, date, and species. Location can be obtained from GPS devices and physical marking systems and date can be obtained from a calendar. However, accurate species identification is dependent on the personal knowledge of those handling roadkilled wildlife and completing roadkill reports.

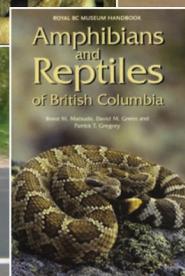
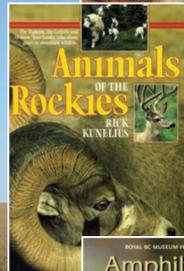
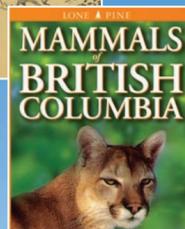
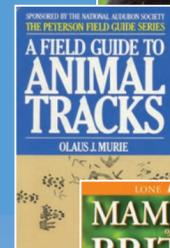
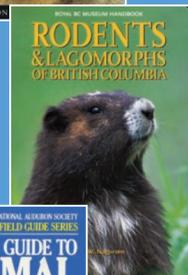
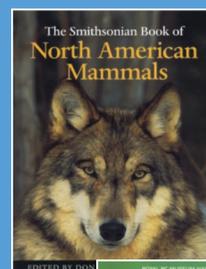
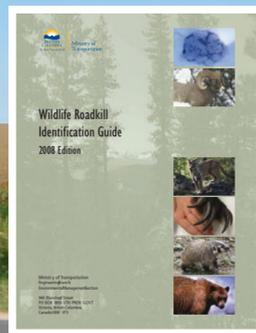
If roadkilled species are inaccurately identified, then the value of the data of wildlife mortality reporting systems for species-specific wildlife protection initiatives may be severely compromised. The major factor limiting accurate species identification by transportation agencies appears to be the lack of wildlife forensics training for their staff and contractors.

## Supporting State Wildlife Protection Investments

As state transportation and natural resource agencies continue to make increasingly larger investments to protect wildlife, there is a greater need for the information used to support and direct these investments to be accurate. If roadkilled wildlife species are inaccurately identified, then any use of the data for state species-specific wildlife collision reduction initiatives may be severely compromised. With improved roadkill reporting, state agencies could avoid the possibility of spending tax dollars developing mitigation for the wrong species of wildlife.

## State Wildlife Roadkill Identification Guides

It appears only two wildlife roadkill identification guides have been published by state agencies. In 1995, the first guide was produced by the Dienst Weg-en Waterbouwkunde Rijkswaterstaat (The Road and Hydraulic Engineering Department) in the Netherlands. "Dieren op en langs de weg" ("Animals on and along the road") provided comprehensive information on 110 species of amphibians, birds, reptiles, and mammals. The guide was developed to assist department road inspectors reporting wildlife road mortality throughout the Netherlands. In 2008, the first wildlife roadkill identification guide produced by a state agency in North America was published by the British Columbia Ministry of Transportation (BCMoT) in Canada. BCMoT's "Wildlife Roadkill Identification Guide" focused on thirteen of the most common large carnivores and ungulates found in British Columbia. The guide was developed to assist the Ministry's private maintenance contractors in identifying wildlife carcasses found on provincial highways as part of their responsibilities for BCMoT's Wildlife Accident Reporting System (WARS).



## Fundamentals for Accurate Roadkill Monitoring

There are three essential pieces of information necessary for accurate and reliable reporting of roadkilled wildlife. These are:

1. Geographic location
2. Date
3. Species

Location and date can be determined using a GPS device and a calendar. However, accurate species identification is very dependent on personal knowledge and experience. Where personal knowledge and experience are lacking, identification can be improved with the use of a comprehensive guide.



## Roadkill Subculture

Roadkilled wildlife has been the object of ridicule in the public press and popular media for many years. Everything from cookbooks to computer games have been created using roadkilled wildlife.

It is within this social and cultural context that any state guide for identifying roadkilled wildlife is developed. The British Columbia Ministry of Transportation guide was specifically called the "Wildlife Roadkill Identification Guide" to avoid any misunderstanding about the purpose of the document. As an official state document, the guide was designed to be completely utilitarian in title and content.



## Things to Consider

### Species

Most states have many different species of wildlife. Some species of wildlife are common while others are rare and endangered. In addition, some species are more prone to road and highway-related mortality than other species. When developing a wildlife roadkill identification guide, it can be challenging trying to determine if the guide should be limited to a few common species of wildlife, or be comprehensive and include as many species of wildlife as possible.

The basic information required to identify a wild animal can be presented using the following four subjects:

- |                        |                               |
|------------------------|-------------------------------|
| 1. Appearance and size | 3. Abundance and distribution |
| 2. Life history        | 4. Characteristic features    |

### Information Sources

There are many good books available for identifying virtually all species of wildlife. Museums throughout the world, like the Smithsonian Institution, publish excellent books on wildlife. The wildlife divisions of state natural resource agencies have invaluable expertise on local species and their geographic distributions.

### Photography Sources

Photographs are a key element for any wildlife identification guide. Some of the finest, freely available, collections of wildlife photography have been assembled by state and federal agencies in the United States. The United States National Park Service (USNPS) has one of the best collections of wildlife photographs in the world. The USNPS collection is available without copyright restrictions for state agency use. Wikipedia, and other similar Internet information websites can be good sources of photographs. There are also a number of Internet-based commercial photograph merchants that can provide good quality wildlife photographs.

The assembly of wildlife photography can be problematic if the species involved are rare or endangered. Species rarely sighted are rarely photographed. Consequently, the available stock of photographs of rare and endangered species is very limited. In the absence of photographs, detailed realistic drawings may be substituted.

### Public Sensitivities

Photographs of roadkilled wildlife can be extremely graphic. For experienced wildlife biologists, these photographs may be considered as factual representations of the adverse consequences of wildlife-motor vehicle interactions. For the general public, the same photographs may be considered repugnant and disturbing. More seriously, children, who idealize and are endeared to wildlife, can be traumatized by these photographs. State agencies considering producing a roadkill guide must be very aware of public sensitivities.

### Agency Needs

It is important to understand the needs of agency personnel. An Internet-based guide may be impractical for field staff in remote locations. A large paper document may be unwieldy for use in a truck or car. A guide produced with plastic laminated pages and sized to fit in a glove compartment or coat pocket has the greatest potential to be accepted and used by field staff. When the Dienst Weg-en Waterbouwkunde Rijkswaterstaat (The Road and Hydraulic Engineering Department) in the Netherlands developed its guide "Dieren op en langs de weg" ("Animals on and along the road"), the guide was specifically designed to fit in the pockets of the uniforms of its road inspectors.

### Carcass Handling Advisories

Examining the carcasses of dead wildlife has inherent health risks. Whether it be infection or injury as a result of inadequate personal protection, the consequences can be dire, ranging from serious long-term health problems to death. It is essential to include an advisory so that personnel who deal with dead wildlife know how to protect themselves.

## Roadkill Quiz



Continued... A. raccoon B. squirrel C. skunk D. fox E. opossum F. moose

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