

ENR - DOT

North Slave, Deh Cho, South Slave Bison-Vehicle Collision Protocol



August 2008



BISON - VEHICLE COLLISION REPORT AND PROCEDURES PROTOCOL

**ENVIRONMENT AND NATURAL RESOURCES
GOVERNMENT OF THE NORTHWEST TERRITORIES**

**DEH CHO, NORTH, AND SOUTH SLAVE REGIONS
2008**

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Revision Date: 14 August 2008

1.0 INTRODUCTION

The Bison – Vehicle Collision Report and Procedures Protocol are meant to be operational templates for Renewable Resource Officers. Each region will operate under this same template with obvious variances accommodating each area's unique geographic location and operational requirements. It provides direction and guidelines for responding to bison accidents, and dispatching and disposing of bison carcasses. Its primary intent is to provide the basis for an appropriate and consistent course of action.

2.0 PURPOSE

To provide direction on responsibilities, procedures and guidelines for Renewable Resource Officers with respect to the responding, destroying and disposing of bison along the highway systems.

2.1 SCOPE

These guidelines will apply to all Renewable Resource Officers employed within the Deh Cho, North, and South Slave Regions.

2.2 BACKGROUND INFORMATION

Renewable Resource Officers routinely respond to occurrences involving collisions between bison and motor vehicles. On occasion, bison are encountered where natural recovery is doubtful. In all cases, sound judgment on the part of the officer responding to the occurrence is critical.

Since these events occur throughout the Deh Cho, North and South Slave Regions, along the road systems, it is incumbent upon us to deal with these situations in a professional and consistent manner.

2.3 REFERENCES AND RELATED AUTHORITY

The Wildlife Act, R.S.N.W.T. 1988, c.W-4
s. 76(4) Officers may exercise the powers conferred and shall perform the duties imposed by this Act and the regulations and shall perform the duties imposed by the Superintendent.

The following directive applies:

- Use of Firearms

3.0 POLICY

3.1 GENERAL

All wildlife destructions must be performed in a safe, humane and discrete manner.

Only Renewable Resource Officers who have successfully completed the firearms qualifications program will perform wildlife destructions.

In the case where chemical immobilization is required, only Renewable Resource Officers who have successfully completed the recognized immobilization course will perform the procedure.

3.2 WHEN TO DESTROY A BISON

As stated in the background information, there are numerous situations where the destruction of a bison may be required. Many times, the decision to destroy a bison can be difficult for the Renewable Resource Officer, especially if the cause of the disability was due to natural events. The following sections give some direction for the possible scenarios that may be encountered.

- In the case of injured or otherwise disabled bison, judgment and experience is required to make the call that natural recovery from the disability is unlikely. Many of the larger species (i.e. bison) are extremely resilient and can recover from injuries that initially appear to be life threatening.
- Appropriate handling of the carcass after the destruction is necessary and a thorough necropsy is mandatory.

3.3 METHODOLOGY FOR DESTRUCTION

Since every situation is unique, no single method can be identified as the only way to destroy a bison. The following guidelines offer a number of options:

- If you have a choice, use your Departmental issue firearm since you know how it shoots.
- Destruction should be as humane as possible.
- The minimum specification for firearms are:
 - 30-06 caliber rifle, minimum 200 grain
 - .300 caliber rifle, minimum 200 grain

The firearm of choice and shot placement are covered during firearms training.

- Wildlife destructions can be messy, clean up the site afterwards if it is in a public area.

3.4 RESPONDING TO HIT BISON

When responding to the scene, make sure that you are in full uniform and have identification on you. If you need to contact additional officers to respond to the scene, refer to Appendix A.

If the bison is badly injured, destroy it. Harvest everything possible and make sure the scene is cleaned up as much as possible. You are in the public's eye. Refer to Appendix B.

Take photos of the scene, the bison, and the vehicle. Fill out the NWT Wildlife - Vehicle Collision Report Form. Refer to Appendix C.

If an injured person is known to be in the vehicle at the scene, contact the appropriate agencies:

- **Fort Providence**
 - R.C.M.P. Ft. Providence Detachment 867-699-1111
 - Ft. Providence Fire Department 867-699-2222
 - Ft. Providence Health Centre 867-699-4311
- **Behchoko**
 - R.C.M.P. Behchoko Detachment 867-392-1111
 - Behchoko Fire Department 867-392-2222
 - Behchoko Medical Emergency 867-392-6075

- **Yellowknife**
 - R.C.M.P. Yellowknife Detachment 867-669-1111
 - Yellowknife Fire and Ambulance 867-873-2222
- **Fort Liard**
 - R.C.M.P. Ft. Liard Detachment 867-770-1111
 - Ft. Liard Fire Department 867-770-2222
 - Ft. Liard Health Centre 867-770-4301
- **Hay River**
 - R.C.M.P. Hay River Detachment 867-874-1111
 - Hay River Fire Department 867-874-2222
 - Hay River Ambulance 867-874-9333
- **Fort Simpson**
 - R.C.M.P. Ft. Simpson Detachment 867-695-1111
 - Ft. Simpson Fire Department 867-695-2222
 - Ft. Simpson Health Centre 867-695-3232
- **Fort Smith**
 - R.C.M.P. Ft. Smith Detachment 867-872-1111
 - Ft. Smith Fire Department 867-872-2222
 - Ft. Smith Ambulance 867-872-3111

Once back at the office, copies of the NWT Wildlife - Vehicle Collision Report Form should be faxed to the following contacts' office:

- Terry Armstrong, Bison Ecologist
Environment and Natural Resources,
Fort Smith, NT (Office) 867-872-6446 (Fax) 867-872-4250
- Terri Bugg
Environmental Analyst. Department of Transportation
Yellowknife, NT (Office) (867) 920-8822 (Fax) (867) 920-2565
- Regional Superintendent - Department of Transportation
North Slave – Michael Conway, Yellowknife, NT
(Office) (867) 920-3096 (Fax) (867) 873-0606
South Slave – Art Barnes, Hay River, NT
(Office) (867) 874-5009 (Fax) (867) 874-2272
Deh Cho – Michael Lafrance, Fort Simpson, NT
(Office) (867) 695-3424 (Fax) (867) 695-3029

Note: The Ft. Providence Resource Management Board has asked to be notified of bison/vehicle collisions near their community.

- Ft. Providence Resource Management Board
(Office) 867-699-3314 (Fax) 867-699-3133

**APPENDIX A
DEPARTMENT CONTACTS**

DEH CHO REGION

Fort Simpson Office

Fax 867-695-2381

Carl Lafferty, Manager Wildlife and Environment (office) 867-695-7471

Kelly Pennycook, Renewable Resource Officer II (office) 867-695-7470

J. George Tsetso, Renewable Resource Officer I (office) 867-695-7472

Nic Larter, Regional Biologist (office) 867-695-7475

Danny Allaire, Wildlife Technician II (office) 867-695-7476

Fort Liard Office

Fax 867-770-4600

Doug Villeneuve, Renewable Resource Officer III (office) 867-770-4300

Floyd Bertrand, Renewable Resource Officer II (office) 867-770-4300

NORTH SLAVE REGION

Tlicho Office

Fax 867-392-6339

Lawrence Lewis, Renewable Resource Officer III (office) 867-392-6511

Joe Mackenzie, Renewable Resource Officer II (office) 867-392-6511

John P Rabesca, Renewable Resource Officer I (office) 867-392-6511

Yellowknife Office

Fax 867-873-6230

Phone 867-873-7184

Fred Mandeville, Manager, Wildlife and Environment (office) 867-873-7019
(cell) 867-445-2061

Raymond Bourget, Senior Wildlife Officer (office) 867-920-3049
(cell) 867-445-3204

Patricia Handley, Renewable Resource Officer II (office) 867-920-6599
(cell) 867-445-3207

Janice Ziemann, Renewable Resource Officer II (office) 867-920-6104
(cell) 867-445-3206

Danny Beaulieu, Renewable Resource Officer II (office) 867-920-6103
(cell) 867-445-3203

Danielle Morin, Environmental Protection Officer (office) 867-920-3387
(cell) 867-445-3208

Roger Fraser, Forest Officer (office) 867-920-6456
(cell) 867-445-3200

SOUTH SLAVE REGION

Hay River Office

Fax 867-875-5559

Phone 867-875-5550

Gerald Hordal, Renewable Resource Officer III (office) 867-875-5554
(cell) 867-875-7473

Ron D. Antoine, Renewable Resource Officer II (office) 867-875-5552
(cell) 867-875-7562

Jamie Chambers, Environmental Protection Officer (office) 867-875-5571
(cell) 867-875-7033

Fort Providence Office

Fax 867-699-3700
Phone 867-699-3002

Evelyn Krutko, Renewable Resource Officer III (office) 867-699-3002

Edward Landry, Renewable Resource Officer I (office) 867-699-3002

Fort Smith Office

Fax 867-872-4250
Phone 867-872-0400

Troy Ellsworth, Manager Wildlife and Environment (office) 867-872-6403

Tony Vermillion, Renewable Resource Officer III (office) 867-872-6404

Sholto Douglas, Renewable Resource Officer II (office) 867-872-6417

Ken Mercredi, Renewable Resource Officer II (office) 867-872-6418

APPENDIX B

DISPOSAL OF WOOD BISON CARCASSES

Carcass:

If the bison is killed on the highway and its meat is salvageable, skin out the carcass. If the carcass is damaged too badly, pull it off to a burrow pit, or to another place off the right-of-way and leave it for scavengers to. The bison hide may be cut open so that scavengers are able to access the carcass more easily.

During summer months, it is critical to get to the carcass as soon as possible as decomposition is sped up due to the higher temperatures.

Meat:

If the meat is in suitable condition, bring salvaged cuts back to the community and distribute. (Receipt forms must be filled out.)

Hide:

If wanted by the community, it can be given to community members. The hide may also be given to spiritual groups, such as the Dene Cultural Institute. (A receipt form must be filled out.)

Skull:

If wanted by the community, it can be given to the community members. The skull may also be given to spiritual groups, such as the Dene Cultural Institute.

The horns are required to be branded. Resource Officers in Fort Providence, Fort Simpson or Yellowknife, Environment and Natural Resources, will be able to do this. See contact list Appendix A.

A certification disk will also be required and attached to the skull. Fill out the necessary forms that go along with the disk.

Biological samples and information to be taken:

Fresh road-killed bison carcasses represent an excellent opportunity to collect specific samples that will be useful for the Department's ongoing efforts in monitoring health status of bison herds - the Mackenzie and Nahanni bison herds are considered free from bovine tuberculosis and brucellosis. A 6-part sampling protocol is outlined below; it is aimed at providing a minimum requirement for collecting useful information. Additional sampling is encouraged and either the Wildlife Veterinarian¹ or Bison Ecologist² can provide details.

¹ Dr. Brett Elkin, Wildlife Veterinarian, (Office) 867-873-7761 (Fax) 867-873-0293

² Terry Armstrong, Bison Ecologist, (Office) 867-872-6446 (Fax) 867-872-4250

- 1) Age & sex of each dead bison should be recorded, along with location, date and time of accident. See report form in Appendix C.
- 2) Whole blood should be collected as soon as possible from a recently killed animal. The best approach is to make an incision in the neck and cut the jugular vein. Blood should be collected in a sterile vial, preferably a red-topped 10 ml Vacutainer. In winter, the collected whole blood should not be allowed to freeze. The whole blood should be transported back to a lab or office, and allowed to clot in a refrigerator for a period of 24 hrs (alternatively, if you have access to a centrifuge, you can spin the blood for ca. 10 minutes to separate the serum from the red blood cells). Use a clean disposable plastic pipette to draw off the remaining serum that is left on top of the blood clot. Place the serum in to a separate sterile vial – preferably another 10 ml red-topped Vacutainer. Label the Vacutainer with a permanent marker, and store the serum in a deep freezer.
- 3) The retropharyngeal lymph nodes (“Retros” for short) are located at the back of the throat towards the roof of the mouth. They are very useful samples to collect because they are an important set of lymph nodes in the head that filter out white blood cells and bacteria from the head and upper respiratory tract. Consequently, it is a sensitive diagnostic sample to collect especially for bovine tuberculosis. The most effective way to find and collect the retropharyngeal lymph nodes is to sever the head of the bison, and place the forehead on the ground with the nose away from you and lower jaw facing up. Cut the hide along the center of the lower jaw, starting from the base of the severed neck towards the center of the bottom lip. Skin out the lower jaw to expose the entire base of the jaw. Cut out the intact tongue by cutting deeply along the insides of the jawbone and pulling back on the tongue. Cut deep and far enough back along the inside of the jawbone so that the weight of the tongue allows it to hang back towards the base of the skull, and gives you a clear view of the roof of the mouth. Your next cuts will be directed at the roof of the mouth from side to side just behind the nasal passage and in front of the base of the tongue. You will notice a “U” shaped bone (the hyoid bone) that is located at the front of the throat and approximately where the jawbone curves up in to the skull. The two retropharyngeal lymph nodes are each about the size of the end of your thumb and are located inside the base of the “U” shaped hyoid bone. Use your fingers to feel the tissue around and inside the base of the hyoid bone to find the two large nodes. Once you feel the nodes, cut around the area with side-to-side incisions. The nodes should literally “pop” out of the surrounding tissue. Once you have excised the lymph nodes, place them in a sterile Whirlpak, and label it with a permanent marker. The lymph nodes should be placed in a deep freezer as soon as possible with your other frozen samples.

- 4) The middle incisors from the lower jaw should be extracted (using tooth extractor or pair of needle nose pliers & screwdriver) and placed in labeled paper envelope and allowed to air dry and stored at room temperature.
- 5) A handful of feces (preferable collected with a rubber-gloved hand) should be collected fresh, placed in labeled sterile Whirlpak and frozen.
- 6) A 3-4 cm piece from the tip of the ear is quick to take, and can be used to extract DNA for genetic studies. The ear should be placed in a sterile label Whirlpak and stored with the other frozen tissues.

It is critically important to ensure that all samples are labeled properly, processed and frozen; use the occurrence record number as your sample ID number. Once you have collected the samples, please contact either the Bison Ecologist or Wildlife Veterinarian to arrange shipment.

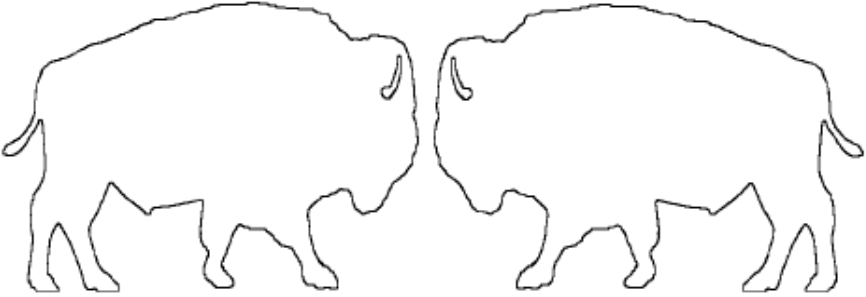
Officers are reminded that during summer, there is a possibility that bison found dead along the roadside that did not die from being struck by an automobile may be infected with anthrax. The likelihood of anthrax is low, but if you have suspicion that the bison may have died from anthrax, please immediately notify the Wildlife Veterinarian or Bison Ecologist.

In animals that have died of anthrax, decomposition of the body occurs very rapidly, and rigor mortis is absent or incomplete. The carcass bloats quickly, and bison tend to be found on their back or sides with their legs splayed. The blood is darker than normal and will not clot readily. Hemorrhages are common throughout the body, and light colored skin may appear bluish in color. Dark blood or bloodstained fluid may ooze from body openings. The presence of swellings on various parts of the body is also common, often associated with subcutaneous edema (excessive accumulation of fluid below the skin). The edema also causes the cape hair of the animal to fall out in large clumps. A number of internal changes occur including an enlarged spleen. Any animal suspected to have died from anthrax should not be handled and should never be opened (NWT Anthrax Emergency Response Plan).

Also see Departmental website:

<http://www.nwtwildlife.com/Publications/diseasepamphletweb/anthrax.htm>

APPENDIX C

NWT Wildlife Collision Report Form			
Occurrence #:		RCMP File #:	
Date:	Time:	Location of Incident - Hwy #:	
Latitude/Longitude (Use GPS on scene):			
Officer:		Complainant:	
Vehicle			
<input type="checkbox"/> Passenger Car		<input type="checkbox"/> Bus	
<input type="checkbox"/> Semi-Trailer		<input type="checkbox"/> Other: _____	
<input type="checkbox"/> RV		<input type="checkbox"/> Pickup Truck	
<input type="checkbox"/> Heavy Duty Truck			
Estimate of Damage:			
<input type="checkbox"/> Minimal		<input type="checkbox"/> Extensive	
<input type="checkbox"/> Totalled			
Photos of Vehicle Taken: Yes / No			
Weather & Road Conditions			
Light Conditions:			
<input type="checkbox"/> Daylight		<input type="checkbox"/> Dawn	
<input type="checkbox"/> Dusk		<input type="checkbox"/> Night	
<input type="checkbox"/> Unknown			
Weather Conditions:			
<input type="checkbox"/> Raining		<input type="checkbox"/> Cloudy	
<input type="checkbox"/> Windy		<input type="checkbox"/> Freezing Rain	
<input type="checkbox"/> Clear		<input type="checkbox"/> Snowing	
<input type="checkbox"/> Unknown		<input type="checkbox"/> Other: _____	
Road Surface Type:			
<input type="checkbox"/> Asphalt		<input type="checkbox"/> Gravel	
<input type="checkbox"/> Dirt			
Surface Conditions:			
<input type="checkbox"/> Dry		<input type="checkbox"/> Wet	
<input type="checkbox"/> Icy		<input type="checkbox"/> Loose Snow	
<input type="checkbox"/> Packed Snow			
Road Description:			
<input type="checkbox"/> Turn		<input type="checkbox"/> Dip	
<input type="checkbox"/> Rise		<input type="checkbox"/> Straight & Level	
Wildlife			
Wildlife Species:			
<input type="checkbox"/> Bison		<input type="checkbox"/> Moose	
<input type="checkbox"/> Caribou		<input type="checkbox"/> Bear	
<input type="checkbox"/> Other: _____			
Killed On Impact: Yes / No		Animal Destroyed: Yes / No	
		Number: _____	
		Photos of Wildlife: Yes / No	
Total Number of Animals Involved:			
Males: _____ Calf		_____ Yearling	
_____ Sub-Adult		_____ Adult	
_____ Unknown			
Females: _____ Calf		_____ Yearling	
_____ Sub-Adult		_____ Adult	
_____ Unknown			
			Describe Any Injuries to Wildlife:
Sample ID#: _____			
Samples:			
<input type="checkbox"/> Blood		<input type="checkbox"/> Lymph Nodes	
<input type="checkbox"/> Middle Incisors		<input type="checkbox"/> Feces	
<input type="checkbox"/> Ear			
Method of Carcass Disposal:			
Hide Salvaged: Yes / No		Meat Salvaged: Yes / No	
		Skull Salvaged: Yes / No	
Other Comments:			