



# FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

for the

## REGIONAL DISTRICT OF BULKLEY-NECHAKO

**Electoral Area A – Smithers Rural  
Electoral Area B – Burns Lake Rural  
Electoral Area C – Fort St. James Rural  
Electoral Area D – Fraser Lake Rural  
Electoral Area E – Francois/Ootsa Lake Rural  
Electoral Area F – Vanderhoof Rural  
Electoral Area G – Houston Rural**

in partnership with  
the  
Districts of Vanderhoof and Houston

May 2010

# FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

for the

Regional District of Bulkley-Nechako  
including Electoral Areas A to G  
and in partnership with the Districts of Vanderhoof and Houston



**This plan was developed under the provisions of the  
UBCM Farmed Animal Mass Carcass Disposal Project  
Emergency Planning Program**



## RECORD OF AMENDMENTS

Date	Amendment #	Entered by
June 14, 2010	Amendments to pp. 5, 10, 16, 17, 68, 69, 71	J. Bremner



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## Glossary

### **Composting**

Carcass composting is a natural biological decomposition process that takes place in the presence of oxygen (air).

### **Control Area**

A geographical area that is legally defined in a Ministerial declaration and which is subject to specified activities to contain and/or eradicate a Foreign Animal Disease outbreak. A Control Area includes an Infected Zone, a Restricted Zone and a Security Zone.

### **Disposal Protocols**

The Resource Management Branch of the BC Ministry of Agriculture and Lands has developed draft protocols that can be used to create situation-specific action plans for disposal.

### **Emergency**

A present or imminent event caused by accident, intention, fire, explosion or technical failure, or by the forces of nature, which requires prompt coordination of action or special regulation of persons or property to protect the health, safety or welfare of people or to limit damage to property.

### **Farmed Animals**

For the purposes of this plan, farmed animals include poultry, cattle, pigs, sheep, horses, goats, bison, llamas and alpacas. These are the farmed animal species which are present in sufficient numbers in the Regional District to create an emergency in the event of mass mortality.

### **Foreign Animal Disease Emergency**

This term refers to an outbreak of foreign animal disease requiring immediate action to contain, control and eradicate the disease including: Slaughtering of infected animals, birds, disposal of carcasses or infected products, cleaning and disinfecting of infected premises and transport, limiting the spread of disease and tracing the origin of the disease.

### **Foreign Animal Disease Emergency Support (FADES) Plan**

A plan which provides an agreement whereby federal and provincial agencies accept responsibilities for a collaborative response to a foreign animal disease event in BC.

### **Hazard**

A source of potential harm, or a situation with a potential for causing harm in terms of human injury, damage to health, property, the environment or some combination of these.

### **Infected Zone**

A geographic area that includes all positive infected premises. Depending on the disease, the perimeter of the infected zone shall extend a minimum of three kilometers beyond all known infected premises and shall follow, when possible, natural barriers and roadways to facilitate implementation of disease control procedures.

### **Joint Emergency Operations Centre**

A designated facility established by multiple agencies or jurisdictions to coordinate overall response and support to an emergency response involving a foreign animal disease.

### **Joint Information Centre**

An element of the Joint Emergency Operations Centre where agencies may collaborate in the planning and disseminating information during an emergency.



### **Livestock**

The term *livestock* in BC includes alpacas, aquaculture animals, cattle, donkeys, fur farmed animals, game farmed animals, goats, horses, llamas, mules, musk oxen, poultry, rabbits, sheep, swine and other exotic animals as prescribed by the Minister of Agriculture and Lands. (*Farm Practices Protection Act*).

### **Local Authority**

Defined by the BC Emergency Program Act to include:

- for a municipality, the municipal council; and
- for an electoral area in a regional district, the board of the regional district.

### **Movement Control**

The primary process of reducing the spread of a foreign animal disease, as most diseases spread by contact with infected or contaminated animals, animal product, by-products, feeds and items used to feed and care for animals. The movement of all pertinent animals or things within the prescribed area may be tracked, monitored and controlled through a permit system.

### **Non-Zoonotic Disease**

A disease present in animals that cannot be transmitted to people.

### **Office International des Epizooties (OIE)**

The OIE is an intergovernmental organization created by international agreement. The 28 member countries undertake to report the animal diseases detected on their territory. The OIE then disseminates the information to other countries, which can take the necessary preventive action.

### **Pathogen**

Any organism capable of producing disease or infection. Often found in waste material, most pathogens are killed by high temperatures.

### **Pre-emptive Slaughter**

Depopulation of susceptible animal species in herds or flocks on premises that have been exposed to infection by direct animal-to-animal contact, or by indirect contact of a kind likely to cause the transmission of a disease virus.

### **Rendering**

The breaking down of animal tissues into constituent fat and protein elements by the application of heat, pressure or other means.

### **Restricted Zone**

An area surrounding an infected zone. The boundaries will be determined by physical and geographical features.

### **Security Zone**

The geographic area between the outer perimeter of the Infected and Restricted Zone(s) to the edge of the Control Area.

### **Specified Risk Material**

The skull, brain, trigeminal ganglia (nerves attached to the brain, eyes, tonsils, spinal cord) and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older, and the distal ileum (portion of the small intestine) of cattle of all ages.

### **Surveillance Zone**

A geographic area that extends from the perimeter of an infected zone to a minimum of ten kilometers from any infected premise or to the outer perimeter of a control area.



**Zoonosis**

An infectious disease in animals that can be transmitted to people.

**Zoonotic Disease**

Pertaining to a zoonosis: a disease that can be transmitted from animals to people or, more specifically, a disease that normally exists in animals but that can infect humans.



## Acronyms / Abbreviations

<b>AAR</b>	After Action Report
<b>ALR</b>	Agricultural Land Reserve
<b>BCAS</b>	British Columbia Ambulance Service
<b>BCERMS</b>	British Columbia Emergency Response Management System
<b>CCG</b>	Central Coordination Group
<b>CFIA</b>	Canadian Food Inspection Agency
<b>EA</b>	Electoral Area
<b>EOC</b>	Emergency Operations Centre
<b>FAD</b>	Foreign Animal Disease
<b>FADES</b>	Foreign Animal Disease Emergency Support
<b>HRVA</b>	Hazard, Risk and Vulnerability Assessment
<b>INAC</b>	Indian and Northern Affairs Canada
<b>JEOC</b>	Joint Emergency Operations Centre
<b>MAL</b>	Ministry of Agriculture and Lands
<b>MOE</b>	Ministry of Environment
<b>MOHS</b>	Ministry of Health Services
<b>MOT</b>	Ministry of Transportation and Infrastructure
<b>PAB</b>	Public Affairs Bureau
<b>PEP</b>	Provincial Emergency Program
<b>PREOC</b>	Provincial Regional Emergency Operations Centre
<b>RDBN</b>	Regional District of Bulkley-Nechako
<b>SRM</b>	Specified Risk Material



**QUICK REFERENCE  
CONTACT LIST**

<p><b>EMERGENCY PROGRAM COORDINATORS</b></p>	<p><b>Regional District of Bulkley-Nechako</b> 250-692-3195 <a href="http://www.rdbn.bc.ca">www.rdbn.bc.ca</a></p> <p><b>District of Houston</b> 250-845-2238 <a href="http://www.houston.ca">www.houston.ca</a></p> <p><b>District of Vanderhoof</b> 250-567-4711 <a href="mailto:vvfd@hwy16.com">vvfd@hwy16.com</a></p>
<p><b>PROVINCIAL EMERGENCY PROGRAM</b></p>	<p><b>Provincial Emergency Coordination Centre (24 hours)</b> 1-800-663-3456 <a href="http://www.pep.gov.bc.ca/index.html">http://www.pep.gov.bc.ca/index.html</a></p> <p><b>Northwest Region PREOC (Terrace)</b> 250-615-4800 <a href="http://www.pep.gov.bc.ca/about_pep/offices.html">http://www.pep.gov.bc.ca/about_pep/offices.html</a></p>
<p><b>BC MINISTRY OF AGRICULTURE AND LANDS</b></p>	<p><b>Resource Management Branch, Waste Management Engineer</b> 604-556-3100 <a href="http://www.al.gov.bc.ca/resmgmt/index.htm">http://www.al.gov.bc.ca/resmgmt/index.htm</a></p> <p><b>Resource Stewardship Agrologist (Prince George)</b> 250-565-7205 <a href="http://www.al.gov.bc.ca/resmgmt/sf/atcontacts/Agri-team_Provincial_Contacts_Sept_2009.pdf">http://www.al.gov.bc.ca/resmgmt/sf/atcontacts/Agri-team_Provincial_Contacts_Sept_2009.pdf</a></p> <p><b>District Office (Smithers)</b> 250 847-7247 <a href="http://www.agf.gov.bc.ca/ministry/who.htm#Smithers">http://www.agf.gov.bc.ca/ministry/who.htm#Smithers</a></p>
<p><b>BC MINISTRY OF ENVIRONMENT</b></p>	<p><b>Environmental Emergency Management Program</b> 250-387-8319 <a href="http://www.env.gov.bc.ca/eemp/contact.htm">http://www.env.gov.bc.ca/eemp/contact.htm</a> <a href="mailto:EEmergen@Victoria1.gov.bc.ca">EEmergen@Victoria1.gov.bc.ca</a></p> <p><b>Environmental Protection Division (Prince George)</b> 250-565-6135 <a href="http://www.env.gov.bc.ca/omineca/">http://www.env.gov.bc.ca/omineca/</a></p> <p><b>Skeena Regional Office (Smithers)</b> 250-847-7260 <a href="http://www.env.gov.bc.ca/skeena/">http://www.env.gov.bc.ca/skeena/</a></p>
<p><b>NORTHERN HEALTH AUTHORITY</b></p>	<p><b>Corporate Office (Prince George)</b> 250-565-2649 <a href="http://www.northernhealth.ca/Contact_Us/">http://www.northernhealth.ca/Contact_Us/</a></p> <p><b>Emergency Preparedness Office (Prince George)</b> 250-565-2108 <a href="http://www.northernhealth.ca/Contact_Us/">http://www.northernhealth.ca/Contact_Us/</a></p>



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

### CANADIAN FOOD INSPECTION AGENCY

#### BC Mainland / Interior Office

604-666-2847

<http://www.inspection.gc.ca/english/directory/offbure.shtml#w-o>

#### District Office (Prince George)

250-561-6924

<http://sage-geds.tpsgc-pwgsc.gc.ca/cgi-bin/direct500/eng/REou%3dPGDO-BDPG%2cou%3dBCI-CBI%2cou%3dCSAO-BSCS%2cou%3dWESTOA-COOUES%2cou%3dOFVPO-BVPOP%2cou%3dCFIA-ACIA%2co%3dGC%2cc%3dCA>

#### District Veterinarian (Williams Lake)

250-305-3004

<http://www.inspection.gc.ca/english/animal/heasan/offbure.shtml>



## QUICK REFERENCE RESPONSIBILITIES

<b>LOCAL LIVESTOCK INDUSTRIES</b>	<p>Local livestock industries are the <i>first line responders</i> in a carcass disposal emergency. Producers are required to manage routine animal mortality and should have emergency plans for mass carcass disposal.</p> <p>When mass carcass disposal is related to an animal disease emergency, or is beyond industry's capability to manage, producers cooperate with all levels of government to ensure an effective response.</p>
<b>LOCAL GOVERNMENTS</b>	<p>Local governments should have emergency plans for carcass disposal and will cooperate with provincial agencies to manage carcass disposal emergencies caused by events other than an animal disease.</p> <p>When a carcass disposal emergency involves an animal disease, or is too large to be managed locally, the local government participates in an expanded response in conjunction with other levels of government.</p>
<b>GOVERNMENT OF BRITISH COLUMBIA</b>	<p>The Provincial Emergency Program (PEP), in conjunction with the Ministry of Agriculture and Lands and the Ministry of Environment, will provide support to local governments for planning and responding to carcass disposal emergencies. When a local government EOC opens in response to a carcass disposal emergency, PEP will activate and provide support appropriate to the situation.</p> <p>When a carcass disposal emergency is the result of an animal disease, the provincial government will normally participate in a joint federal-provincial response in accordance with the <i>Foreign Animal Disease Emergency Support Plan</i>.</p>
<b>GOVERNMENT OF CANADA</b>	<p>Foreign animal diseases fall into the federal arena of legislated authority and responsibility. When a carcass disposal emergency is the result of a transmissible animal disease the federal government, through the Canadian Food Inspection Agency, will initiate and lead a joint federal-provincial response, in accordance with the <i>Foreign Animal Disease Emergency Support Plan</i>.</p>
<b>COLLECTIVE RESPONSIBILITY</b>	<p>The complex nature of carcass disposal operations require that all levels of government and local livestock industries work together to resolve the situation quickly and efficiently, with minimum risk to human health and the environment.</p>



## QUICK REFERENCE CONCEPT OF OPERATIONS SUMMARY

There are two broad categories of response applicable to a mass farmed animal carcass disposal emergency:

1) The mass livestock mortality is caused by a natural or man-made disaster such as a flood, earthquake or fire. In this case the response will be for a *Non-Disease Event* as described below. In this type of emergency event the RDBN will work together with the local livestock industry, PEP, MAL and MOE to manage disposal operations.

### Non-Disease Event

When a carcass disposal emergency is caused by mass animal mortality from natural or man-made disasters, carcass disposal operations will, to the extent possible, be managed by individual producers in cooperation with the local livestock industry.

If the scale of the carcass disposal requirement exceeds the capacity of individual producers/industry and/or there is public health or environmental concerns, local government may be required to provide emergency management support, resources and coordination.

Depending on the scale of the emergency, a local government EOC may have to be activated. In such cases, PEP will activate and provide an appropriate level of direction and assistance.

2) The mass mortality is caused by a disease present in the livestock. In this case the response will be for an *Animal Disease Event*, as described below. In this type of response the RDBN will provide local support to federal/provincial authorities.

### Animal Disease Event

In mass farmed animal mortality events involving an animal disease, the carcass disposal operation will be managed within an expanded response structure involving other levels of government in accordance with the joint federal-provincial Foreign Animal Disease Emergency Support (FADES) Plan, or as otherwise considered necessary by CFIA.

The scale of response will depend on a variety of factors such as the type and severity of the disease, the risk of transmission, risk to human health and the environment and the potential impact on the Canadian economy. CFIA will employ a graduated approach to a suspected animal disease outbreak:

**Initial Response** – A CFIA case officer or the district veterinarian will visit suspected premises to undertake testing and apply any necessary controls.

**Enhanced Response** – Upon confirmation of disease, the response is augmented by CFIA as necessary to carry out data collection, enforcement, destruction, disposal and cleaning/disinfection to ensure control and eradication of the disease.

**Expanded Response** – Based on the seriousness of the situation, the CFIA Regional Director may recommend an expanded response to include activation of a joint federal-provincial emergency operations centre (JEOC) to control all operations.



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

During an animal disease response, the local government will work in conjunction with the federal-provincial officials. Local government officials can play a key role in advising on local conditions, coordinating with the local livestock industry, providing information on disposal sites and resources and keeping the public advised.

The local government may be required to undertake a variety of operational tasks within or as coordinated by the JEOC. The structure of a federal-provincial JEOC that may be established during an animal disease response is illustrated at Appendix 1 to Section 5.



## QUICK REFERENCE NON-DISEASE EVENT CHECKLIST

If the carcass disposal requirement is part of a larger emergency (e.g., flood, earthquake) for which the local authority EOC is already activated, a carcass disposal planning team should be formed within the EOC. If the carcass disposal emergency is independent from a larger emergency (e.g., caused by a localized fire, transportation accident, etc) the EOC should be activated to coordinate carcass disposal operations.

Step	Action Required
1	Establish carcass disposal team within EOC. Notify PEP and MAL of the nature of the emergency.
2	Obtain PEP Task Number if applicable.
3	Determine location and number of carcasses to the extent possible. This information will normally be obtained from the affected livestock producers. <sup>Note 1</sup>
4	Notify MOE of the carcass disposal emergency.
5	Notify applicable health authority if a threat to human health is suspected.
6	Identify and nominate industry representative(s) to EOC. This should include at least one representative from the applicable local livestock association.
7	In consultation with producers, determine if off-farm disposal is likely to be required. Review transportation requirements and availability if applicable.
8	Develop and implement a suitable communications strategy.
9	Identify disposal options in consultation with MAL and PEP.
10	Review potential disposal sites and, in conjunction with MAL and MOE arrange geotechnical or other assessments required.
11	Ensure appropriate arrangements are made with respect to security and public safety at carcass collection points and/or disposal sites.
12	Select disposal methodology(s) in concert with MAL.
13	Review resource lists and identify required equipment.
14	Brief affected producers on disposal operations.
15	Finalize plan and implement disposal operations.
16	Brief key stakeholders and keep public advised through local media, town hall meetings, etc. (See Appendix 4 to Section 5).
17	Ensure appropriate documentation on carcass disposal is completed and retained (see Appendix 2 to Section 8).
18	Review PEP <a href="#">compensation guidelines</a> .
19	Record all decisions and actions for daily logs and After Action Report.
20	Identify recovery needs and implement recovery plan.

**Note 1:** For small carcass disposal events the responsibility remains with the producer(s). Local government assistance may be necessary when the producer becomes overwhelmed or no suitable options exist on-farm.



## QUICK REFERENCE ANIMAL DISEASE EVENT CHECKLIST

A carcass disposal emergency which involves a transmissible animal disease will normally be part of a coordinated federal/provincial response to the underlying disease emergency. It is therefore likely that the Foreign Animal Disease Emergency Support (FADES) Plan will have been implemented and that a Joint Emergency Operations Centre (JEOC) will have been established in the Regional District.

Step	Required Action
1	Liaise with JEOC staff to ensure that the local authority has input into the planning. If JEOC has not been established, liaise directly with PEP, MAL and CFIA.
2	Review <a href="#">FADES Plan</a> and in particular <a href="#">Annex D</a> for probable roles and tasks.
3	Obtain PEP Task Number if applicable.
4	Develop local public relations/communications plan. <sup>Note 1</sup>
5	Liaise with JEOC staff with respect to local environmental or other restrictions on carcass disposal.
6	Liaise with JEOC staff to ensure that local producers have been briefed and are kept advised on carcass disposal planning and operations.
7	Review resource lists and develop logistics/transportation plans in conjunction with JEOC.
8	Assist JEOC with preparation of disposal plans, providing advice on local conditions.
9	Review potential disposal sites in the local area and assist JEOC in arranging geotechnical and other surveys/assessments as required.
10	Ensure local first responders are briefed on carcass disposal requirements and are available to assist as required.
11	Liaise with JEOC regarding security and public safety at carcass collection points and/or disposal sites.
12	Determine from CFIA/JEOC any threats to human health from animal disease and liaise with Regional Health Authority on public health issues.
13	Participate as required in JEOC Action Planning Meetings to ensure that local interests are considered.
14	Keep local stakeholders and public advised of carcass disposal plans and activities through local media, town hall meetings, etc. (See Appendix 4 to Section 5).
15	Maintain records/logs of all decisions and daily activities for After Action Report
16	Work with JEOC staff on recovery planning for the Regional District.
17	Review <a href="#">provincial</a> and <a href="#">federal</a> compensation guidelines/options.

**Note 1:** It is essential that the local communications plan be closely coordinated with regional/provincial/federal communications strategies to ensure common messaging among all responding agencies.



## 1. Introduction to the Plan

---

### 1.1 Purpose and Scope

The primary purpose of this plan is to guide the response within the Regional District of Bulkley-Nechako (RDBN) and its partner municipalities for dealing with mass animal carcasses generated in an emergency. The plan is designed to enhance the regional district's capacity to recover quickly from a mass animal carcass emergency and reduce the impact on the local agriculture industry.

The secondary purpose of the plan is to provide a source of local information related to a carcass disposal emergency which may be used by federal, provincial and local agencies that participate in an expanded response to a carcass disposal emergency. This information includes a profile of animal farming sites and activities in the RDBN, and a list of resources and capabilities which may be utilized in an emergency response.

The scope includes:

- a) a description of the agriculture in the RDBN with emphasis on local farmed animal populations;
- b) identification of hazards and vulnerabilities that could result in a mass carcass disposal emergency situation in the district area;
- c) a concept of operations for disposal operations;
- d) methodologies for mass carcass disposal;
- e) identification of disposal resources and key personnel required to respond to an emergency situation;
- f) activities that may be performed in the event of a mass carcass disposal emergency;
- g) identification of resources required and available;
- h) identification of resource shortfalls; and
- i) a framework for post-emergency recovery.

The plan is designed to include the partner municipalities of Vanderhoof and Houston. Other local jurisdictions within the RDBN are not included, although all livestock within the RDBN area is considered when calculating RDBN totals.

### 1.2 Responsibility for the Plan

This plan will be maintained by the RDBN. The plan should be reviewed in its entirety and updated in concert with routine reviews of emergency plans.

### 1.3 Authorities

Disposal of animal carcasses is governed by a number of federal and provincial regulations. Principal among these are:



*Federal*

- a) [Emergency Preparedness Act](#)
- b) [Emergencies Act](#)
- c) [Health of Animals Act](#)
- d) [Health of Animals Regulations](#)

*Provincial*

- a) [Animal Disease Control Act](#)
- b) [Animal Disease Control Regulation](#)
- c) [Emergency Program Act](#)
- d) [Emergency Management Regulation](#)
- e) [Environmental Management Act](#)
- f) [Health Act](#)
- g) [Local Authority Emergency Management Regulation](#)

Foreign animal diseases are within the area of federally legislated authority and responsibility. Such diseases are considered a threat to national security and the federal government, through the CFIA, leads response efforts to control disease outbreaks. However, it is recognized that no single federal agency can manage the risks from these diseases and response plans require all levels of government to work together along with local livestock industries.

**1.4 Requirement for the Plan**

Section 2(1) of the *BC Local Authority Emergency Management Regulation –1995* requires local authorities to prepare emergency plans that reflect the local authority's assessment of the relative risk of and the potential impact of the emergencies that could affect the jurisdictional area for which the local authority has responsibility.

The desirability of having a carcass disposal plan at the local government level is set out in the *Ministry of Agriculture and Lands Emergency Response Plan 2006*, which states in part:

*“BC local authorities should have emergency plans to deal with livestock mortalities from livestock disease outbreaks, as well as to address dead stock arising from natural disasters such as floods, fires and earthquakes.*

*Local plans should allow for timely and efficient disposal of dead stock so as to minimize impacts on human, environmental and livestock health. Local authorities should take into account animal-related threats to human health and the environment; identify resources and key personnel to deal with the threats; identify methods of utilizing resources; and outline activities that must be performed in the event of an emergency”.*



**1.5 RDBN  
Emergency  
Structure**

Coordinated emergency management within the RDBN is established in two bylaws:

- a) RDBN Emergency Preparedness Planning Bylaw 1201, 2001; and
- b) RDBN Emergency Program Service Area Bylaw 1210, 2001.

The RDBN has an *Emergency Preparedness Program*, which was established in 2001. The mission of the program is to provide planning, support and leadership in the event of an emergency or disaster. The program is administered by an emergency management organization with oversight from a Rural Directors Committee.

The RDBN has an *Emergency Preparedness Plan* to support the rural areas within the regional district. Emergency management relationships are as follows:

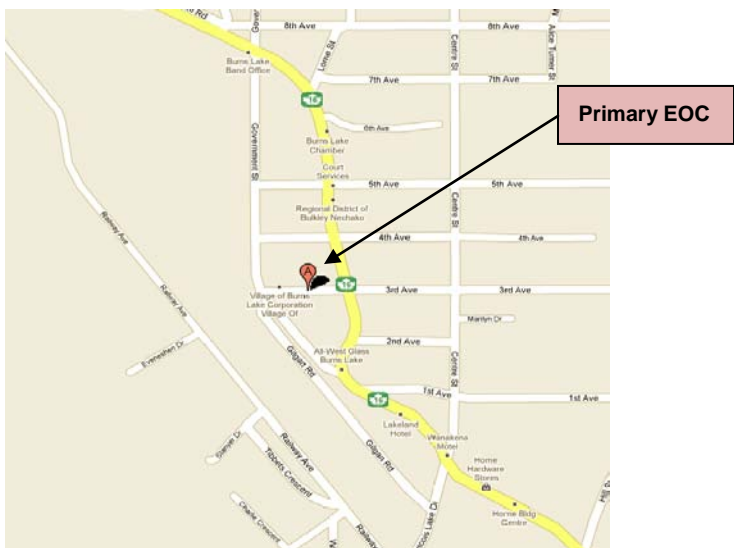
- a) Electoral Areas (A-G).
  - The seven electoral areas are jurisdictional areas in accordance with the *Emergency Program Act*. The RDBN is both the local government and the local authority for the electoral areas.
  - During an emergency, the RDBN will open its primary EOC.
  - When the RDBN opens its EOC, the municipality closest to the event may be activated and may provide support.
- b) Incorporated Municipalities (Town of Smithers, Districts of Fort. St. James, Houston and Vanderhoof, and Villages of Burns Lake, Fraser Lake, Granisle and Telkwa).
  - Each incorporated municipality is its own local government and is a local authority in accordance with the *Emergency Program Act*. The municipalities are responsible for the development of an emergency plan for their own jurisdictional areas.
  - When a municipality opens its EOC, the regional district EOC may be activated and may provide support.

**1.6 EOC  
Locations**

The primary EOC location is the Regional District of Bulkley-Nechako office within the townsite of Burns Lake, as shown below:



# FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN



**Primary EOC**  
**37 3rd Avenue, Burns Lake, BC**  
**1-200-320-3339**

Arrangements for an alternate EOC are:

<b>Alternate EOC:</b>	An alternate regional district EOC will be identified based on the location of the event and the need for the EOC to be located near the event.
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## 1.7 Related Plans

This emergency plan is related to other plans, the most important of which are:

- a) RDBN Emergency Preparedness Plan, 2003;
- b) Emergency Response Plan for BC MAL, 2006; and
- c) [FADES – Foreign Animal Disease Emergency Support \(2009\) Plan](#).

## 1.8 Activation of Plan

The requirement to activate this plan will be determined by the RDBN, in consultation with PEP and MAL.

<b>FOR ACTIVATION OF THIS PLAN, CONSULT WITH:</b>
<b>Provincial Emergency Program</b> <b>1-800-663-3456 (24 hours)</b> <a href="http://www.pep.gov.bc.ca/index.html">http://www.pep.gov.bc.ca/index.html</a>
<b>Ministry of Agriculture and Lands</b> <b>604-556-3100 (Business hours)</b> <a href="http://www.gov.bc.ca/al/">http://www.gov.bc.ca/al/</a>



**1.9 Future Work on the Plan**

The following ongoing work related to this plan will be undertaken as time, resources and funding opportunities permit:

- a) development of a password protected emergency web-site that will give access to emergency plans, forms and contact information to emergency operations staff during an emergency;
- b) organization of materials and information that may be posted on the regional web-site during an event;
- c) explore Facebook, Twitter and other social networking services that may be utilized as additional/alternative communication systems;
- d) identify funding opportunities that assist in:
  - i. locating potential central burial and composting sites and obtaining approvals for these sites from the Ministry of Agriculture and Lands, and
  - ii. purchasing a portable incinerator;
- e) identify and create a listing of regional transportation companies with vehicles suitable for the transportation of animal carcasses (both infected and non-infected);
- f) investigate the use of furnaces in local mills as a potential means of incinerating carcasses; and
- g) liaise with the [Investment Agriculture Foundation](#) to investigate funding for emergency operations centre staff training as outlined at Annex C.





## 2. RDBN Area Data

### 2.1 RDBN Agricultural Profile

The RDBN is situated in north central British Columbia. It covers an area of roughly 73,500 square kilometers and had a population of 38,860 in 2009 (BC Statistics).

The RDBN contains eight municipalities: the Town of Smithers, the Districts of Fort St. James, Houston and Vanderhoof and the Villages of Burns Lake, Fraser Lake, Granisle and Telkwa. The Rural Area is divided into seven electoral areas.



Neighbouring jurisdictions are the Regional Districts of Kitimat-Stikine, Central Coast, Cariboo, Fraser-Fort George and Peace River. To the north the boundary with the remote Stikine Region runs along the 56th parallel.

The main geographical components of the RDBN are the Bulkley Valley, the northern part of the Nechako region and the Omineca area including portions of the Hazelton and Omineca mountains. The dominant landform is the Nechako Plateau.



The ecosystem of the RDBN is dominated by the sub-boreal spruce zone. The climate is continental, characterized by seasonal extremes of temperature. The primary growing season is two to three months long and the mean annual precipitation ranges from 18 to 35 inches. The climate of the higher elevations is more extreme with a very short, cool growing season, long and cold winters and snowpack ranging from one to four meters.

The terrain is composed of a high, rolling or hilly plateau contained by rugged mountains on the west and northeastern borders. There is little or no commercial forest cover in the northern half, but forests are extensive in the south where they support a large part of the local economy.

There are two major river systems in the Regional District:



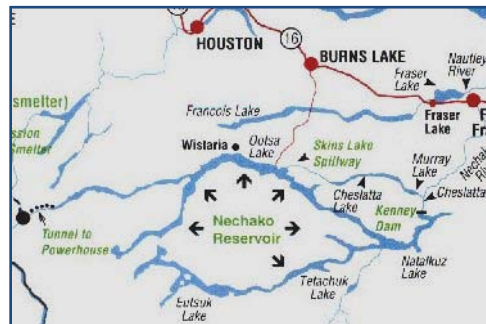
## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

- The Nechako River rises on the Nechako Plateau and flows north toward Fort Fraser, then east to Prince George where it enters the Fraser River. Its main tributaries are the Stuart, Endako, Chilako and Nautley rivers. The Nechako is one of the main tributaries of the Fraser, although most of its flow has been diverted through the Coast Mountains to the Kemano generating station.
- The Bulkley River is 257 km long with a drainage basin covering 12,400 square km. Much of the Bulkley is paralleled by Highway 16. It flows west from Bulkley Lake and is joined near Houston by the Morice River, its major tributary. The Bulkley continues north past Quick, Telkwa and Smithers before meeting the Skeena River near Hazelton.



The main rivers are all prone to flooding under certain weather conditions. In 2007, over the course of the spring, the Nechako,

Skeena and Bulkley all exceeded their 50-year return period flows and caused flooding.



The Nechako Reservoir, sometimes called the Ootsa Lake Reservoir, forms a large body of water in the southern part of the

Regional District. The reservoir was formed by a diversion of the Nechako River through the Kitimat Ranges of the Coast Mountains to Kemano.

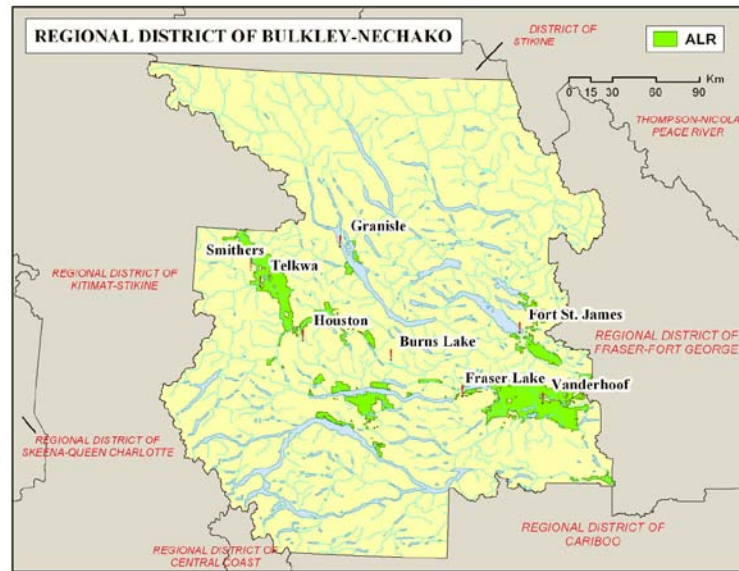
The creation of the reservoir flooded the series of lakes which typified the upper Nechako basin and in the process rendered the Quanchus Range, which lies between the north and south arms of the reservoir, a virtual island (see map section above).

The major farming areas in the region are in the Bulkley Valley-Lakes District and the rural area surrounding Vanderhoof. Agriculture occurs mainly in the river valleys, where the land is relatively flat and the soil is fertile. About 50,000 hectares of land are cultivated, the main crops being forage for beef and dairy herds.

The Agricultural Land Reserve (ALR) accounts for 4.8% of the Regional District's overall area. The map below shows the ALR within the RDBN:



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN



Agricultural activity in the RDBN is limited both by the cold climate and the terrain, which is often stony or poorly drained. Most agricultural operations are confined to the lower elevations along the major rivers. Dairy and cattle forage crops as well as cereal and grain crops can be grown in these areas due to the better soils and warmer temperatures. However, at higher elevations the only significant agricultural activity is summer livestock grazing.

The area's farm population is approximately 2,600 persons representing about 7% of the total population.

Agricultural activities in the Regional District are primarily dairy, livestock and forage production. There is opportunity for growth in the beef and cattle industry as the long history of ranching in the area has developed much of the required infrastructure for successful farming. Ranching has increased dramatically in the region since the late 1970s.



Agricultural production in the form of feeder cattle is sold to feedlots in southern BC and Alberta. Despite the fact that backgrounding (feeding calves for feedlot) is well established in the RDBN, approximately 70% of calves leave the region to be backgrounded and finished in other areas, mainly in Alberta.

There are numerous farms in the regional district on which pigs, sheep and goats are kept, but most are small holdings. Poultry of



various types are present on farms and acreages however there are no large poultry farms currently operating.

Most livestock activities in the Regional District of Bulkley-Nechako are managed extensively and even ones that could be considered intensive are relatively small in nature.

A summary of farms and the number of animals in the RDBN is shown below: <sup>Note 1</sup>

Species	No. of Farms	No. of Animals
Cattle and Calves	569	77,377
Poultry (all types)	252	10,596
Horses and Ponies	463	3,380
Sheep and Lambs	63	3,328
Goats	48	508
Pigs	60	347
Llamas and Alpacas	21	281
Bison	3	129

Note 1: Livestock data is primarily from Statistics Canada Census 2006, Agriculture Community Profiles. The number of farms in the table exceeds the district total, as many farms support more than one livestock species.

Calculation of volume and mass by species is at Appendix 1 to this section. Maps showing the livestock distribution within the RDBN are at Appendices 2 and 3.

Additional data for the area may be found in the *RDBN Agricultural Overview*, published by the Ministry of Agriculture and Lands, available on line at:

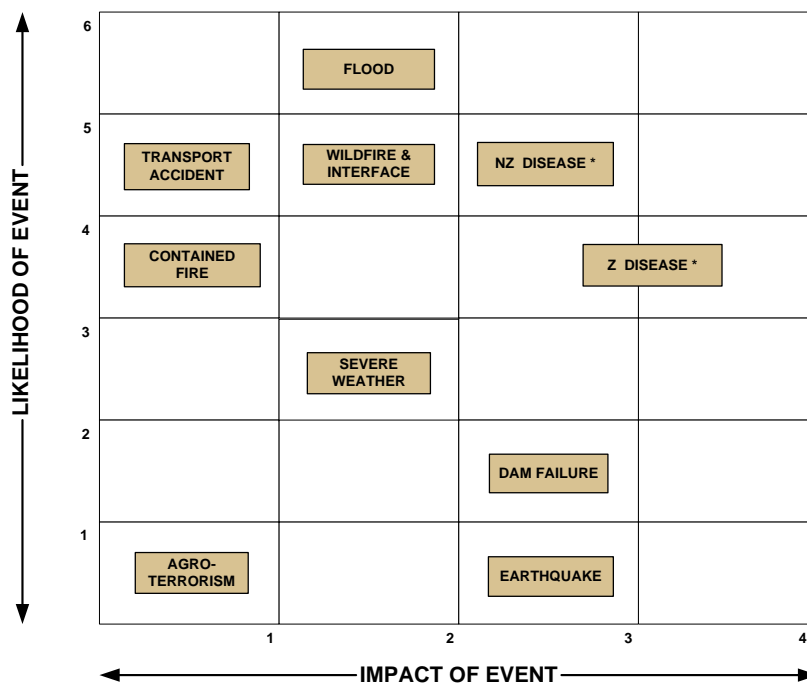
[http://www.agf.gov.bc.ca/resmgmt/sf/agoverviews\\_2006census/Bulkley\\_Nechako\\_Ag\\_Overview.pdf](http://www.agf.gov.bc.ca/resmgmt/sf/agoverviews_2006census/Bulkley_Nechako_Ag_Overview.pdf)

**2.2 History of Mass Animal Mortality in the Region**

There is no record of animal mortality in the RDBN causing a carcass disposal emergency.

**2.3 Risk Profile**

The risk profile for farmed animal mass mortality in the RDBN is illustrated below:



\* Z = Zoonotic; NZ = Non-Zoonotic (see Glossary for definitions)

The grid illustrates the relative likelihood and impact of hazards/ risks which may cause animal mortality in the RDBN. It is correlated generally with the Regional District HRVA but relates only to the potential causes of a mass carcass disposal emergency.

2.4 Commodity and Advisory Groups / Organizations

MAL has established agriculture advisory teams (Agri-teams) to support local governments with agricultural concerns or issues. These teams can assist with farmed animal producer contact information and will be key advisors in a carcass disposal emergency.

The principal contact for the RDBN is:

Resource Stewardship Agrologist
Suite 815-299 Victoria Street
Prince George, BC V1T V2L 5B8
250-565-7205
Brent.Barclay@gov.bc.ca

Current contact information for all MAL Agri-team member may be found at:

http://www.al.gov.bc.ca/resmgmt/sf/Contacts.htm#Agri-Team Members



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

A further source of current farmed animal producer location and contact information can be derived from data generated under the premises ID and traceability programs being undertaken by the CFIA, MAL and key producer associations. Contact information is as follows:

### DAIRY

**BC Milk Producer's Association**  
3236 Beta Avenue  
Burnaby, BC V5G 4K4  
604-294-3737 or 1-877-462-2672  
[contactus@bcmilkproducers.ca](mailto:contactus@bcmilkproducers.ca)

### POULTRY

**BC Chicken Marketing Board**  
101-32450 Simon Avenue  
Abbotsford, BC V2T 4J2  
604-859-6828  
[info@bcchicken.ca](mailto:info@bcchicken.ca)

### BEEF

**BC Cattlemen's Association**  
#4-10145 Dallas Drive  
Kamloops, BC V2C 6T4  
250-573-3611  
[info@cattlemen.bc.ca](mailto:info@cattlemen.bc.ca)

### HORSES

**Horse Council of BC**  
2669 Deacon St.  
Abbotsford, BC V2T 6H3  
604-856-4304  
<http://www.hcbc.ca/>

The information provided by the ID and traceability programs is confidential and only to be used in an emergency.

A list of livestock producer associations and agricultural advisory groups is at Appendix 4.



**Appendix 1 to Section 2  
RDBN – Calculation of Farmed Animal Volume  
and Mass by Species**

Livestock	Number of Head (1)	Average Mass (kg) (2)	Total Mass (tonnes) (3)	Volume Factor (cu meters) (2)	Total Volume (cu meters) (4)
Hens and Chickens	9,383	1.65	15.48	.015	140.75
Turkeys	936	5	4.68	.0375	35.1
Other Poultry	277	2.5	.69	.019	5.26
<b>Total</b>	<b>10,596</b>		<b>20.85</b>		<b>181.11</b>

Cows (Dairy and Beef)	32,855	635	20,862.92	1.5	49,282.5
Bulls >1 year old	1,686	727	1,225.72	1.5	2,529
Steers >1 year old	5,955	635	3,781.42	1.5	8,932.5
Heifers	7,856	455	3,574.48	1.0	7,856
Calves	29,025	210	6,095.25	0.5	14,512.5
<b>Total</b>	<b>77,377</b>		<b>35,539.79</b>		<b>83,112.5</b>

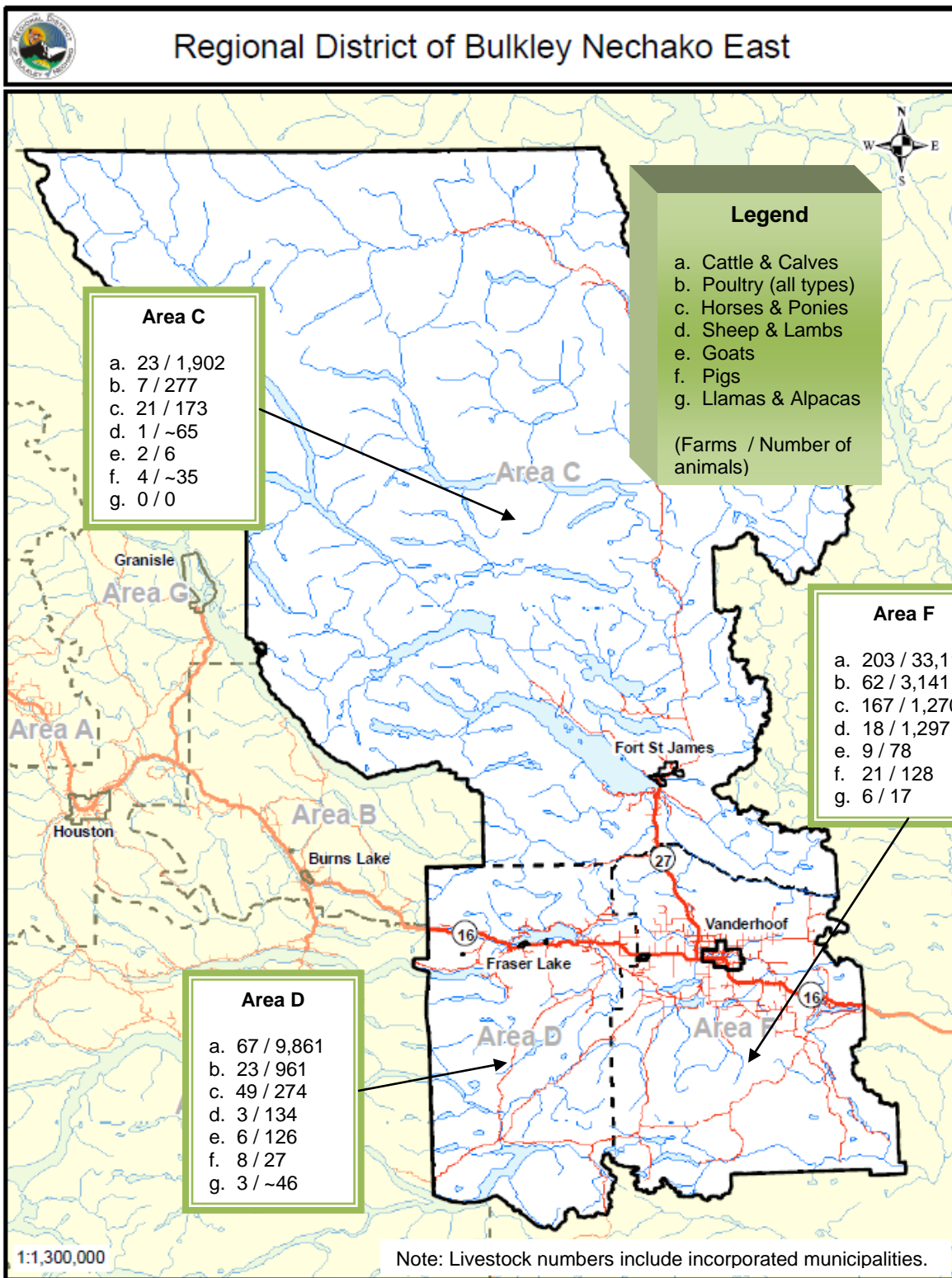
Pigs	347	200	69.4	0.375	<b>130.12</b>
Sheep and lambs	3,328	80	266.24	0.3	<b>998.4</b>
Horses and ponies	3,380	523	1,767.74	1.5	<b>5070</b>
Goats	508	80	40.64	0.3	<b>152.4</b>
Llamas and Alpacas	281	75	21.07	0.6	<b>168.6</b>

**Notes:**

- 1 Number of head is derived from Statistics Canada Census 2006 – Agriculture Community Profiles. Where exact figures were not available due to statistics confidentiality an extrapolation from similar or previous data has been made.
- 2 The average mass and volume factors for each livestock category are per CFIA publication, *Mass Slaughter and Disposal of Livestock, Rural Municipality of Hanover, Manitoba, Information Book, July 21, 2006 (Draft)*.
- 3 The total mass calculation is based on the average livestock weight in kilograms multiplied by the number of head. This is converted to metric tons by multiplying the total weight in kilograms by the conversion factor 0.001.
- 4 The total volume is the space required for burial based on the number of head multiplied by the volume factor. The volume factors were derived from the number of head that would equal one adult bovine unit, requiring 1.5 cubic meters of space for burial. To calculate pit dimensions, the following can be used for a rule-of-thumb: 1 bovine unit = 5 adult sheep = 4-5 mature swine = 100 mature chickens = 40 mature turkeys.

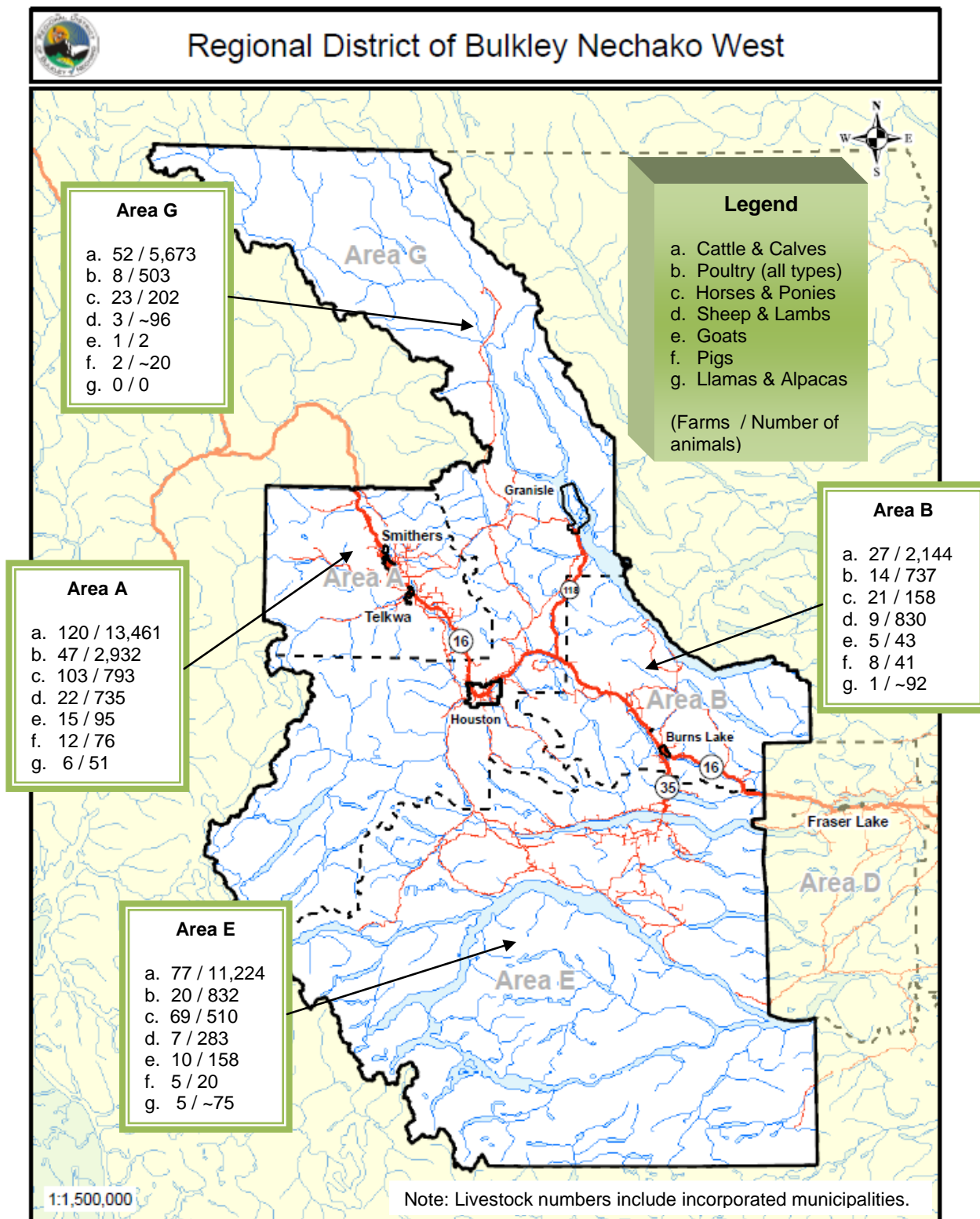


Appendix 2 to Section 2  
Livestock Distribution – RDBN East





Appendix 3 to Section 2  
Livestock Distribution – RDBN West





**Appendix 4 to Section 2**  
**Livestock Commodity and Advisory Groups** <sup>Note 1</sup>

<p>BC Chicken Growers' Association P.O. Box 581 Abbotsford, BC V2T 6Z8 604-859-9332 <a href="mailto:bccga@telus.net">bccga@telus.net</a></p>	<p>BC Cattlemen's Association 4-10145 Dallas Drive Kamloops, BC V2C 6T4 250-573-3611 <a href="mailto:info@cattlemen.bc.ca">info@cattlemen.bc.ca</a></p>
<p>Horse Council of BC 2669 Deacon St. Abbotsford, BC V2T 6H3 604-856-4304 <a href="http://www.hcbc.ca/">http://www.hcbc.ca/</a></p>	<p>BC Sheep Federation 2881 Mountain Road Duncan, BC V9L 6N4 250-295-6419 <a href="http://www.bcsheepfed.com/">http://www.bcsheepfed.com/</a></p>
<p>BC Goat Breeders' Association 30854 Olund Road Mt Lehman, BC V4X 1Z9 604-854-6261 <a href="http://www.bcgba.netfirms.com/">http://www.bcgba.netfirms.com/</a></p>	<p>BC Turkey Growers' Association 19329 Enterprise Way Surrey, BC V3S 6J8 604-534-5644 <a href="mailto:smallory@bcturkey.com">smallory@bcturkey.com</a></p>
<p>BC Dairy Council 7000 Blackwell Road Kamloops, BC V2C 6V7 250-573-4747 <a href="http://www.bcdairycouncil.ca/">http://www.bcdairycouncil.ca/</a></p>	<p>BC Milk Producers' Association 3236 Beta Avenue Burnaby, BC V5G 4K4 604-294-3775 <a href="mailto:contactus@bcmilkproducers.ca">contactus@bcmilkproducers.ca</a></p>
<p>BC Pork Producers' Association 2010 Abbotsford Way Abbotsford, BC V2S 6X8 604-853-9461 <a href="http://www.bcpork.ca/BC_Pork/">http://www.bcpork.ca/BC_Pork/</a></p>	<p>BC Llama and Alpaca Association 1045 – 165<sup>th</sup> Street White Rock, BC V4P 2P3 604-541-4141 <a href="http://www.bclaa.com/">http://www.bclaa.com/</a></p>
<p>First Nations Agricultural Association 408 Paul Lake Road Kamloops, BC V2H 1J8 250-314-6809 <a href="http://www.fnala.com/">http://www.fnala.com/</a></p>	<p>Investment Agriculture Foundation 3rd Floor, 808 Douglas Street Victoria, BC V8W 2Z7 250-356-1662 <a href="mailto:info@iafbc.ca">info@iafbc.ca</a></p>
<p>Bulkley Valley Dairymen's Association 20864 Hwy 16 Smithers, BC V0J 2N1 250-847-8823</p>	<p>Northern Interior Dairymen's Association Box 2095 Vanderhoof, BC V0J 3A0 250-567-5189</p>
<p>Nechako Regional Cattlemen's Association Contact: Butch Ruter 250-567-8781</p>	<p>Skeena Regional Cattlemen's Association Contact: Shirley Hamblin 250-845-8317 <a href="mailto:Shirley@hamblin.ca">Shirley@hamblin.ca</a></p>



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

Local Associations <sup>Note 2</sup>	
Cluculz Lake Livestock Association Larry Darratt 250-567-9470	Bulkley Valley Cattlemen's Association Megan Darcy 250-847-8832
Fort Fraser Livestock Association Janice Tapp 250-699-6466	Lakes District Cattlemen's Association Sherry Peebles 250-695-6314
Punchaw Cattlemen's Association Ann Migpar 250-960-8727	Skeena Stockmen's Association Lena von Seydlitz 250-847-5238
Sinkut Mountain Cattlemen's Association Richard Martin 250-567-8804	Pleasant Valley Cattlemen's Association Shirley Hamblin (President) 250-845-8317 <a href="mailto:Shirley@hamblin.ca">Shirley@hamblin.ca</a> Linda Dykens (Secretary) 250-845-3013

**Note 1:** Additional information on livestock associations and other provincial agriculture organizations is available through the *BC Agriculture Resource Guide 2008* at: <http://www.agridigest.com/guide/ResourceGuide08.pdf>.

**Note 2:** Current contact information for local associations is available from the BC Cattlemen's Association, Kamloops, 250-573-3611, [info@cattlemen.bc.ca](mailto:info@cattlemen.bc.ca).



### 3. District of Vanderhoof Area Data

#### 3.1 Vanderhoof Agricultural Profile

The District of Vanderhoof is located approximately 100 kilometers west of Prince George. It sits on a plateau above the Nechako River Valley. The district is approximately 58 square kilometers in size and had an estimated population of 4,143 in 2009 (BC Statistics).

The Nechako Valley was formed by a glacial lake basin and the resultant fertile agricultural lands are level to moderately rolling. To the east around Cluculz Lake and in the west around Fraser Lake the topography is more severe on the plateau and gravelly soils are mixed with rock outcroppings. The Nechako River and its tributaries; the Stellako, Endako and Nautley River systems, are the main drainages.



Scale 1:600,000

The local agriculture sector dates to the turn of the century with the migration of settlers into the Nechako Valley region centred around what are now the District of Vanderhoof, the unincorporated community of Fort Fraser and the Village of Fraser Lake. During the early years, Vanderhoof began as a small community with the surrounding area containing large cattle ranches and logging operations.

A rural area dotted with farms and ranches surrounds the municipality, particularly along the Nechako River valley. Ranching is an important industry with the majority of properties situated along the Highway 16 corridor.

A surge in agricultural activity occurred with the opening of the agricultural land lease policy in the early 1970s. It was during this time that the region's agriculture began to take on an important role in beef, forage and grain production.

Beef is the predominant commodity, and many acres of grain, forage and pasture were developed to sustain the cattle herds. The cattle industry includes commercial herds as well as registered



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

purebred breeders.

Vanderhoof now produces a significant amount of cereal crops, possibly more than any other area outside the Peace River North East region. Agriculture in the region is still characterized by enterprising part-time farmers.

Much of the land surrounding the main agriculture basin is spotted with areas of good arability, marked with rocky pine covered ridges. For the most part these lands are well suited for forests as well as for beef production in that they provide some excellent hay and grain land and additional potential for natural and tame pasture integrated with good forest management.



The Nechako River runs through the district and is prone to flooding at certain times of the year, although the floods are normally not of sufficient magnitude to threaten livestock.

There are numerous small farms in the district on which pigs, sheep and goats are kept, but these are small holdings. Poultry of various types are present on farms and acreages and there are a large number of backyard flocks.

Livestock farms and the number of animals for the District of Vanderhoof are shown in the two tables below: <sup>Note 1</sup>

a) District of Vanderhoof excluding Electoral Area F (estimate):

Species	No. of Farms	No. of Animals
Cattle and Calves	11	1,700
Poultry (all types)	2	1,100
Horses and Ponies	Primarily Acreages	300
Pigs	Seasonal	175
Bison	1	40

b) District of Vanderhoof and Electoral Area F:



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

Species	No. of Farms	No. of Animals
Cattle and Calves	203	33,112
Poultry (all types)	62	3,141
Horses and Ponies	167	1,270
Sheep and Lambs	18	1,297
Goats	9	78
Pigs	21	128
Llamas and Alpacas	6	17
Bison	2	~86

Note 1: Livestock data is from Statistics Canada Census 2006, Agriculture Community Profiles, Consolidated Census Division for Vanderhoof.

A map showing the distribution of livestock farms within the District of Vanderhoof is at Appendix 1.

### 3.2 Local Emergency Structure

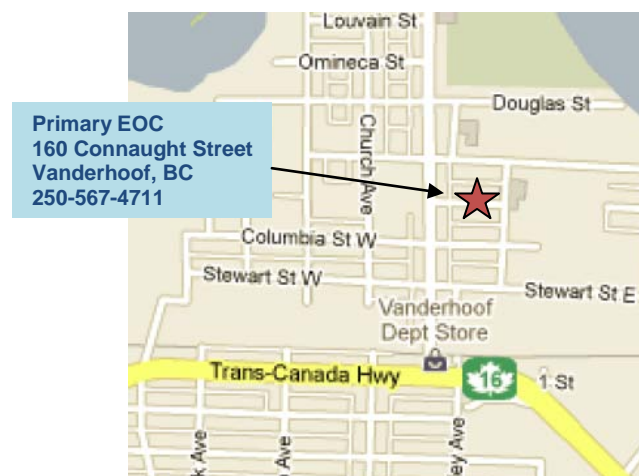
The District of Vanderhoof has its own local government and is a local authority in accordance with the *Emergency Program Act*. The district maintains an emergency plan for its own jurisdictional area.

The RDBN has an Emergency Preparedness Program that may provide support to members communities in the event of an emergency or disaster.

During an emergency within the District of Vanderhoof a local EOC will be established to manage emergency operations.

### 3.3 Local EOCs

The location of the District of Vanderhoof primary EOC is shown below:

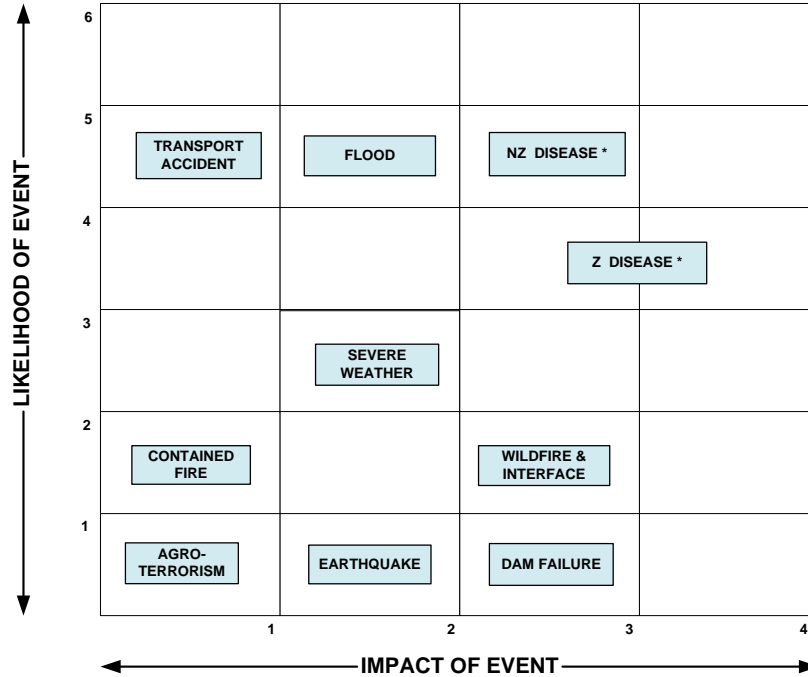




A secondary EOC will be established as and when required.

3.4 Local Risk Profile

The risk profile for farmed animal mass mortality in Vanderhoof is illustrated below:



\* Z = Zoonotic; NZ = Non-Zoonotic (see Glossary for definitions)

The grid illustrates the relative likelihood and impact of hazards/risks which may cause animal mortality in the district. It is correlated generally with the emergency zone HRVA but relates only to the potential causes of a mass carcass disposal emergency.

It should be noted that the rural area surrounding the District of Vanderhoof, represented by Electoral Area F, contains the largest concentrations of livestock in the RDBN. It is therefore unlikely that an animal disease or carcass disposal emergency could be contained within the district boundaries.

3.5 Local Agricultural Contacts

Ministry of Agriculture and Lands  
#815-299 Victoria Street  
Prince George, BC V2L 5B8  
250-565-7200  
[http://www.agf.gov.bc.ca/ministry/who.htm#Prince George](http://www.agf.gov.bc.ca/ministry/who.htm#Prince%20George)

Resource Stewardship Agrologist  
#815-299 Victoria Street  
Prince George, BC V1T V2L 5B8  
250-565-7205



[http://www.al.gov.bc.ca/resmgmt/sf/atcontacts/Agri-team Provincial Contacts Sept 2009.pdf](http://www.al.gov.bc.ca/resmgmt/sf/atcontacts/Agri-team_Provincial_Contacts_Sept_2009.pdf)

Central Interior Feeders Cooperative Association  
PO Box 2007  
Vanderhoof, BC V0J 3A0  
250-567-3000  
<http://www.bcbfa.ca/central.htm>

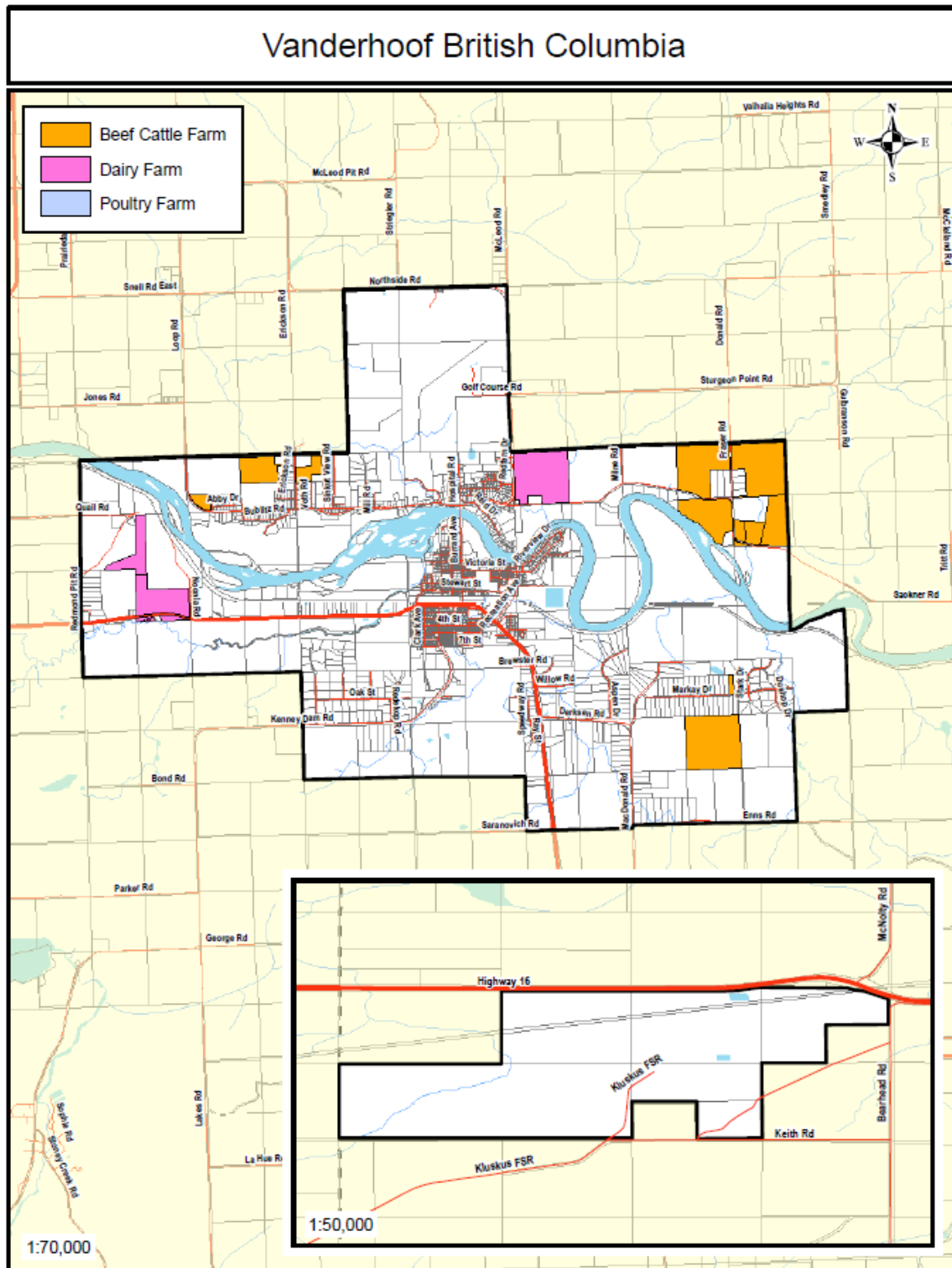
Fraser Nechako Bred Heifer Cooperative Association  
PO Box 65  
Vanderhoof BC V0J 3A0  
250-567-4788  
<http://www.bcbfa.ca/fraserbred.htm>

Northern Interior Dairymen's Association  
PO Box 2095  
Vanderhoof, BC V0J 3A0  
250-567-5189  
[http://www.bcmilkproducers.ca/about/staff\\_board\\_of\\_directors/staff\\_and\\_board\\_of\\_directors](http://www.bcmilkproducers.ca/about/staff_board_of_directors/staff_and_board_of_directors)

District 'C' Farmers Institute  
15695 Thompson Rd. East  
Prince George, BC V2K 5L2  
250-967-4645  
[http://www.alc.gov.bc.ca/publications/planning/Planning\\_for\\_Agriculture/Appendix/appendix\\_16.htm](http://www.alc.gov.bc.ca/publications/planning/Planning_for_Agriculture/Appendix/appendix_16.htm)



Appendix 1 to Section 3  
Livestock Farms – District of Vanderhoof



Note: Farm locations are derived from BC Assessment data and may not reflect current use.



## 4. District of Houston Area Data

### 4.1 Houston Agricultural Profile

Incorporated in 1957, the District of Houston has a total land area of approximately 72 square kilometers. The estimated population of the district was 2,958 in 2009 (BC Statistics).

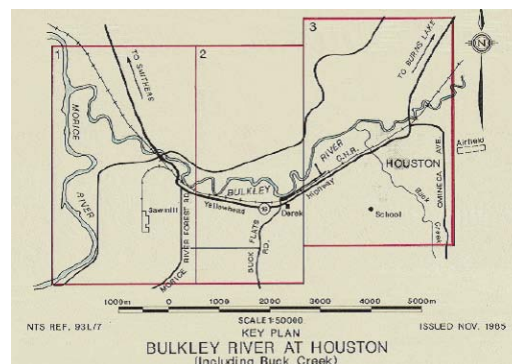
Houston is 465 kilometers east of Prince Rupert and 320 kilometers west of Prince George along Highway 16. This location, roughly midway between two major centres, makes the district a key supply and service centre for the area.



The climate in the Houston area is characterized by cool summers and relatively cold winters with significant snowfall. The average July temperature in Houston is 21.4° Celsius, and the average January temperature is minus 7.4° Celsius. The growing season in the area is short, with an average of 90 frost-free days annually.

The District of Houston lies at the confluence of the Bulkley and Morice Rivers, the former being a major tributary of the Skeena. The Bulkley is 257 kilometers long with a drainage basin covering 12,400 square kilometers. Much of the Bulkley is paralleled by Highway 16, which is a major transportation corridor. The river flows west from Bulkley Lake past Perow and is joined near Houston by the Morice River, its major tributary.

The river systems combine to form a major floodplain in the area as shown below:



A transportation corridor based on Highway 16 and CN rail passes through the central part of the district. Logging is the main industry, but beef cattle farming is also important, with the majority of farms situated along the Highway 16 corridor.



Agricultural activity contributes to the economy of the area and is primarily related to forage and beef production. Other activities include food production of lamb, pork, dairy and eggs, and crop production along the river valleys. Several local producers process a portion of their poultry and livestock for sale locally.

Farming in the rural Houston area includes those agriculture activities associated with grazing domestic livestock on Crown land; the beef industry is the key user of Crown range in the area. The most productive range sites are at lower elevations in deciduous and mixed wood forest types, meadows and grasslands, which is typical of the District of Houston. Range tenures are tied to ranch properties because base properties must be capable of producing enough hay/feed for the non-range use period to support the number of animals authorized to graze under range tenure.

There are numerous small farms in the district on which pigs, sheep and goats are kept, but these are small holdings. Poultry of various types are present on farms and acreages and there are a large number of backyard flocks, however there are no major poultry producers in the district.

Livestock farms and the number of animals for the District of Houston are shown in two tables below: <sup>Note 1</sup>

a) District of Houston excluding Electoral Area G (estimate):

Species	No. of Farms	No. of Animals
Cattle and Calves	15	700
Poultry (all types)	4 (Seasonal)	300
Horses and Ponies	Primarily Acreages	150
Pigs	2	20
Bison	0	0

b) District of Houston and Electoral Area G:

Species	No. of Farms	No. of Animals
Cattle and Calves	52	5,673
Poultry (all types)	8 (Seasonal)	503
Horses and Ponies	33	202
Sheep and Lambs	3	~96
Goats	1	2
Pigs	2	~20
Llamas and Alpacas	0	0
Bison	0	0



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

Note 1: Livestock data is from Statistics Canada Census 2006, Agriculture Community Profiles, Consolidated Census Division for Houston.

A map showing the distribution of livestock farms within the District of Houston is at Appendix 1.

### 4.2 Local Emergency Structure

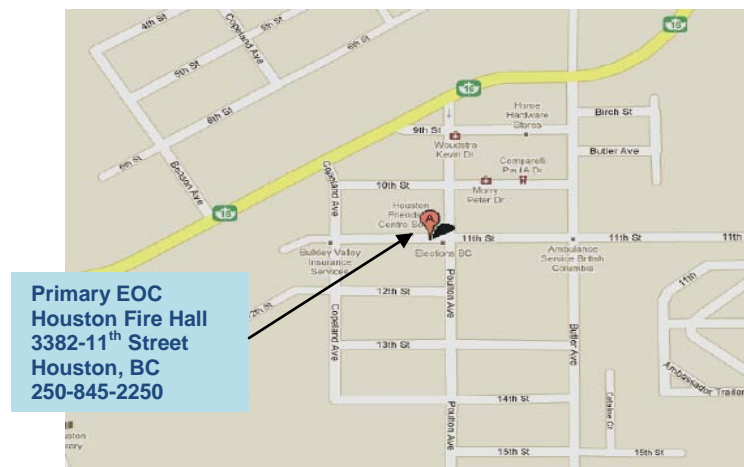
The District of Houston has its own local government and is a local authority in accordance with the *Emergency Program Act*. The district maintains an emergency plan for its own jurisdictional area.

The RDBN has an Emergency Preparedness Program that may provide support to member communities in the event of an emergency or disaster.

During an emergency within the District of Houston a local EOC will be established to manage emergency operations.

### 4.3 Local EOCs

The location of the District of Houston primary EOC is shown below:



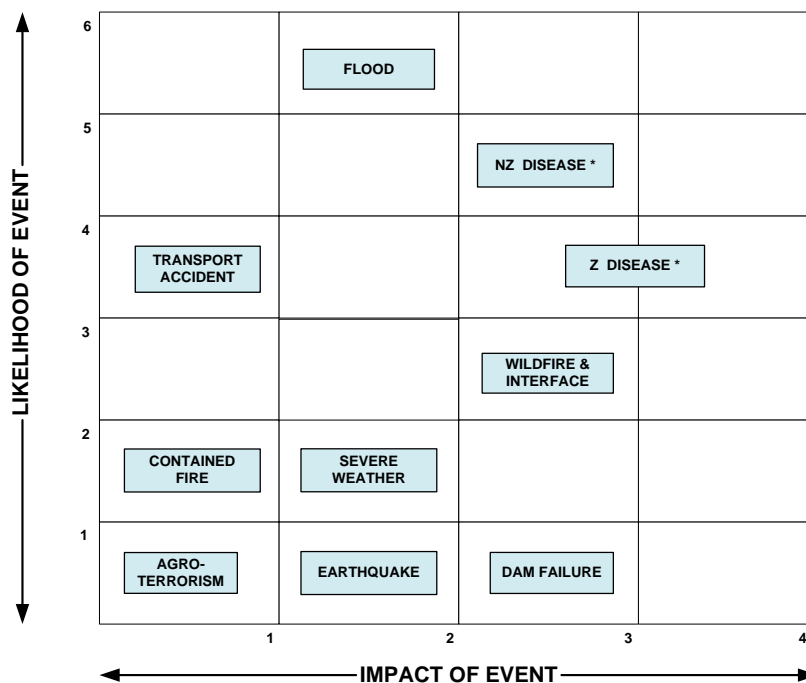
An alternate EOC is located in the Houston Municipal Hall, 3367-12<sup>th</sup> Street, telephone 250-845-2238.

### 4.4 Local Risk Profile

The risk profile for farmed animal mass mortality in the District of Houston is illustrated below:



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN



\* Z = Zoonotic; NZ = Non-Zoonotic (see Glossary for definitions)

The grid illustrates the relative likelihood and impact of hazards/risks which may cause animal mortality in the district. It is correlated with the emergency zone HRVA but relates only to the potential causes of a carcass disposal emergency.

### 4.5 Local Agricultural Contacts

Ministry of Agriculture and Lands  
 Access Centre  
 3726 Alfred Ave, Bag 5000  
 Smithers, BC V0J 2N0  
 250-847-7247  
<http://www.agf.gov.bc.ca/ministry/who.htm#Smithers>

Resource Stewardship Agrologist  
 #815-299 Victoria Street  
 Prince George, BC V1T V2L 5B8  
 250-565-7205  
[http://www.al.gov.bc.ca/resmgmt/sf/atcontacts/Agri-team\\_Provincial\\_Contacts\\_Sept\\_2009.pdf](http://www.al.gov.bc.ca/resmgmt/sf/atcontacts/Agri-team_Provincial_Contacts_Sept_2009.pdf)

Bulkley Valley Dairymen's Association  
 20864 Highway 16  
 Smithers, BC V0J 2N1  
 250-847-8823  
[http://www.alc.gov.bc.ca/publications/planning/Planning\\_for\\_Agriculture/Appendix/appendix\\_17.htm](http://www.alc.gov.bc.ca/publications/planning/Planning_for_Agriculture/Appendix/appendix_17.htm)



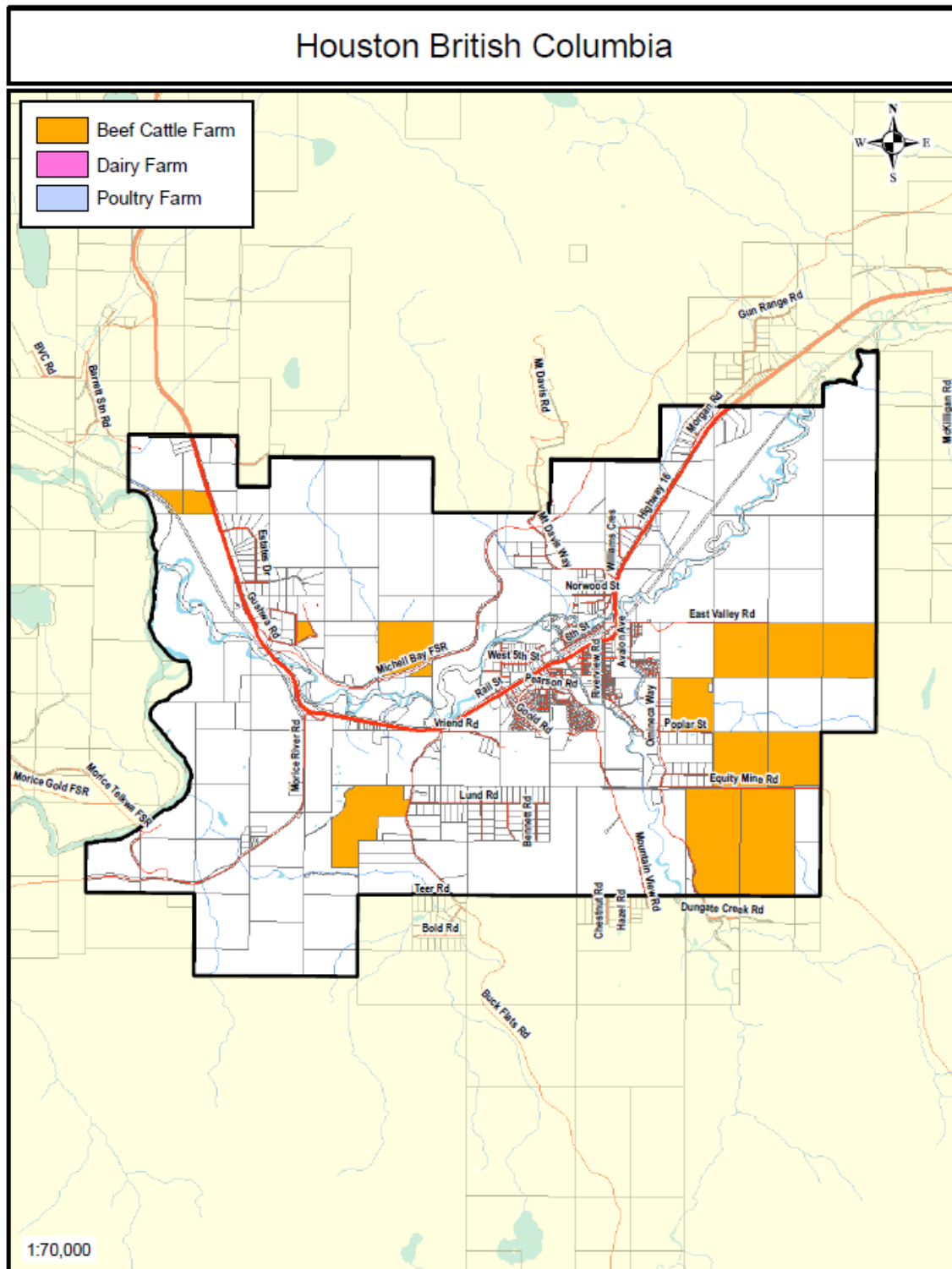
## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

F.A.R.M. Community Council  
(Provincial Council of Farmers Institutes)  
3860 Snake Road  
Smithers, BC V0J 2N7  
250-847-8823  
[http://www.alc.gov.bc.ca/publications/planning/Planning\\_for\\_Agriculture/Appendix/appendix\\_18.htm](http://www.alc.gov.bc.ca/publications/planning/Planning_for_Agriculture/Appendix/appendix_18.htm)

Smithers Farmers Institute  
17774 Telkwa High Road  
Smithers, BC V0J 2N7  
250-847-9705  
(no web site)



Appendix 1 to Section 4  
Livestock Farms – District of Houston



Note: Farm locations are derived from BC Assessment data and may not reflect current use.



## 5. Concept of Operations – Mass Carcass Disposal

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### 5.1 General

Mortality losses are a normal part of livestock production. Producers may have losses due to disease, natural events such as extreme weather, fires, accidents or inter-animal competition. It is the responsibility of the producer to dispose of these routine mortalities in an acceptable manner. Industry and primary producers are responsible for developing their own plans for carcass disposal.

In intensive livestock operations such as poultry farming, the disposal of large numbers of carcasses caused, for example, by loss of ventilation due to power failure during severe hot weather, may be considered routine. Mass carcass disposal will only become an emergency if the scale and extent of farmed animal mortality is beyond the capability of local producers, results from an animal disease or if there is a significant risk to public health.

The primary objectives of a carcass disposal operation are to prevent the dissemination of infection and to protect the environment. This process is therefore an essential part of an animal disease eradication program and is important from both a public health and environmental perspective.

Potential causes of mass farmed animal mortality range from natural disasters to more complex situations involving infectious diseases. Notwithstanding the cause, timely and effective local response is essential in order to limit impact on the industry and community, and to allow for the mobilization of resources locally and from other levels of government if required.

The efficient and environmentally safe disposal of mass animal carcasses will require:

- a) early notification;
- b) an estimate of the scale of carcass disposal required;
- c) the selection of an appropriate disposal methodology;
- d) the availability of suitable disposal sites; and
- e) the timely provision of applicable resources.

### 5.2 Operational Context

Emergency planning for mass livestock carcass management anticipates a cooperative partnership between local livestock producers, local authorities, the province and CFIA. While producers will take the lead role in any livestock emergency, local authorities are expected to manage a consultative framework that allows for a timely and efficient approach to the emergency.



There are few circumstances in which a carcass disposal emergency will exist independently of a larger emergency or disaster situation. The circumstance that caused the animal mortality, e.g. a foreign animal disease or a natural disaster such as a flood, will frequently in itself trigger an emergency response. Carcass disposal therefore, will normally be a component of a larger emergency situation and will fit into the existing response and recovery structure.

There are two categories of events applicable to a mass animal mortality emergency:

**Non-Disease Event**

When a carcass disposal emergency is caused by mass animal mortality from natural or man-made disasters, carcass disposal operations will, to the extent possible, be managed by individual producers in cooperation with the local livestock industry.

If the scale of the carcass disposal requirement exceeds the capacity of individual producers/industry and/or there is public health or environmental concerns, local government may be required to provide emergency management support, resources and coordination.

Depending on the scale of the emergency, a local government EOC may have to be activated. In such cases, PEP will activate and provide an appropriate level of direction and assistance under the provincial integrated response structure.

**Animal Disease Event**

In mass farmed animal mortality events involving an animal disease, the carcass disposal operation will be managed within an expanded response structure involving other levels of government in accordance with the joint federal-provincial FADES Plan, or as otherwise considered necessary by CFIA.

The scale of response will depend on a variety of factors such as the type and severity of the disease, the risk of spread / transmission, risk to human health and the environment, and the potential impact on the Canadian economy. CFIA will employ a graduated approach to a suspected animal disease outbreak:

**Initial Response** – A CFIA case officer or the district veterinarian visits suspected premises to undertake testing and apply any necessary controls.



**Enhanced Response** – Upon confirmation of disease, response is augmented by CFIA as necessary to carry out data collection, enforcement, destruction, disposal and cleaning/disinfection to ensure control and eradication of the disease.

**Expanded Response** – Based on the seriousness of the situation, the CFIA Regional Director may recommend an expanded response to include activation of a joint federal-provincial emergency operations centre (JEOC) to control all operations.

During an animal disease event, the local government emergency structure will work in conjunction with the federal-provincial JEOC in the affected area. Local government staff can play a key role by providing advice about the local area, coordinating with the local livestock industry, providing information on potential disposal sites and keeping the public advised.

The local government may be required to undertake a variety of operational tasks within or as coordinated by the JEOC. A description of the roles and responsibilities of organizations and agencies that may be involved in a farmed animal health/carcass disposal emergency is at the [FADES Plan Annex D](#).

The structure of a federal-provincial JEOC that may be established during an animal disease event is illustrated at Appendix 1.

**5.3 Non-Disease Event**

Natural disasters such as floods, fires or extreme weather can cause significant animal mortality, particularly in intensive livestock farming operations where a high density of farmed animals is present. In some cases, preventive measures in themselves may result in significant mortality – for example, the mass movement of dairy cattle to a safe area in advance of a predicted flood may result in mortalities in the range of 3 to 5 percent of the animals moved.

When animal mortality caused by a natural disaster is beyond the capability of producers to manage, or when mass mortality has a potentially significant public health impact, it becomes a carcass disposal emergency which may be managed by the local government.

In such a situation, the local government may be expected to manage the emergency response, supported by the appropriate provincial organizations and agencies. As with other emergency situations, the local government must remain in close contact with PEP, which will provide a level of support appropriate to the situation. Both MAL and the applicable Regional Health Authority must also be kept aware of the situation during any mass mortality



5.4 Animal Disease Event

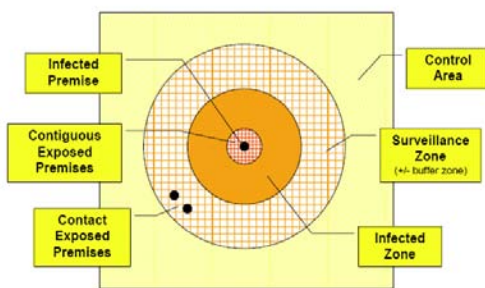
event, and each will provide appropriate advice and support.

The local government response will depend on whether the animal mortality is part of a larger emergency (e.g., flood or earthquake) for which an emergency response has already been initiated, or the carcass disposal emergency is independent of a broader response.

In accordance with the *Health of Animals Act* and *Animal Disease Control Act*, warning of animal mortality caused by an animal disease will originate with producer(s), and carcasses must be inspected immediately by a local veterinarian. Until the mortality is confirmed to be the result of a reportable disease, the producers are initially responsible for carcass disposal.

If the scale of mortality from any disease is beyond the capabilities of the local livestock industry, the matter becomes an emergency and an expanded federal-provincial response will be initiated. Initial notification may come from a producer, abattoir, diagnostic laboratory, local veterinary practitioner, public health unit or the BC Chief Veterinary Officer who, in turn, contacts the CFIA Regional/District Veterinarian or District Office Manager.

Each CFIA Regional/District Office is responsible to maintain a contingency response plan to guide their response to an animal health emergency. CFIA evaluates the situation and determines what steps, if any, are necessary to further characterize the disease based on the epidemiology report from the initial visit to the suspect premises.



CFIA – Reportable Disease / FAD Control Area Schematic.

If the existence of a serious/reportable disease situation is confirmed, a CFIA *Emergency Response Team* will be mobilized for further assessment of the situation and to commence control and eradication activities. The need for a JECC will be assessed and, if

required, will be established in the vicinity of the affected area.

Control and eradication activities will normally begin by controlling movements of animals and people in zones where the disease has been diagnosed. There may be one or more infected zones containing the infected premises. Depending upon the disease, the perimeter of the infected zone(s) would extend a minimum of three kilometres beyond all known infected premises and would follow,



when possible, natural barriers and roadways to facilitate implementation of disease control procedures.

Surrounding the infected zone(s), will be a restricted zone extending from the perimeter of the infected zone(s) to a specified distance, which could vary according to the disease. A security zone will extend from the outer limit of the infected and restricted zones to the limit of the control area. The three zones will constitute a *Control Area* where certain measures would be applied according to a pre-approved disease control/eradication strategy (see schematic above).

In situations involving mass animal mortality, the JEOC will contain a *Disposal Group* to oversee carcass disposal operations. This group directs the disposal of carcasses and regulated materials associated with destruction ordered in the disease response. The *Disposal Group* designs a disposal plan to prevent the spread of the pathogen and mitigate public health or environmental risks. It is essential that the Disposal Group receives assistance from the local government to identify appropriate sites for disposal of carcasses.

Local governments will be required to assist the federal/provincial JEOC by providing local coordination and support. The nature of the assistance will vary according to the situation, but may include: advice on local conditions; coordination with local industry; provision of local emergency services including police, fire and communications services; the provision of local resources and the coordination of federal, provincial and local media. Amplification on possible local government and local police roles is included in [FADES Plan Annex D](#).

**5.5 Disposal Options and Protocols**

Selection of an appropriate methodology for carcass disposal in an emergency is situation dependent – choices must be based on the animal species involved, the scale of the mortality, environmental concerns and other factors.

The selection of a preferred method of disposal will usually be determined by the cause of death. When a natural disaster is the cause, the disposal method chosen should be the most environmentally acceptable. If the death was due to an infectious organism, then the method that most efficiently prevents further disease spread is usually the preferred choice, while taking all possible actions to protect the environment.

The protocols for emergency carcass disposal depend primarily on the cause of mortality:



a) *Non-Infected Animals*

For non-infected animals the full range of disposal choices is available, with market or rendering being preferred options. Only live animals are suitable for market slaughter and processing and this will normally include only non-infected animals.

b) *Infected Animals*

For infected animals, emergency disposal methods must meet five key criteria:

- suitability (disease agent inactivation);
- legality (environmental protection);
- safety (public safety not compromised);
- practicality (time and cost efficient); and
- if an animal disease is present, CFIA approval of the disposal method is required.

Disposal of infected carcasses may be on-site, depending on the type of carcasses and the cause of mortality, and this is normally the preferred option unless environmental and social factors dictate other choices. If movement of carcasses off-site for disposal is required, this must be carried out according to strict bio-security controls.

MAL is developing protocols which establish approved methods of disposal for each type of animal species. The Ministry should be contacted for information on current protocols and guidance at the outset of any carcass disposal emergency.

**MINISTRY OF AGRICULTURE AND LANDS**

**Resource Management Branch  
Waste Management Engineer  
604-556-3001**

<http://www.al.gov.bc.ca/resmgmt/index.htm>

**5.6 Specified Risk Material**

The *Health of Animals Act* regulates the handling of specified risk material (SRM). SRM are tissues that, in BSE-infected cattle, have been shown to contain the infective agent and transmit the disease. Consequently, these tissues are considered to be SRM in all cattle as defined in the glossary.

The handling of bovine carcasses is therefore affected by federal SRM regulations. Rules related to the handling of SRM in landfills and by other disposal methods are prescribed by CFIA and may be viewed at:

<http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesh/enhren/art/wasdece.shtml>



As the mass disposal of bovine carcasses will present unique issues with respect to SRM handling, guidance for specific situations must be sought from CFIA before any decision on the disposal or movement of bovine carcasses is taken. This is true for both disease and non-disease related mass carcass disposal emergencies.

**5.7 On-Site or Off-Site Disposal**

Historically, disposal of diseased carcasses was done on the infected premise to avoid spreading the infection by transporting the carcasses to an off-site facility. However, some on-site disposal methods, burial and burning, have potentially serious environmental consequences and on-site composting may be limited by space requirements and access to carbonaceous bulking agents (wood chips, straw, peat moss).

While on-site disposal is still a preferred option, off-site methods may increasingly be used in emergencies, particularly for the carcasses of large animals. A decision to move the disposal activities off-site will be related to the scale of event (i.e., the volume of material), site capacity and environmental concerns.

For off-site disposal, the primary issue will be to identify a suitable site for disposal and the transportation of carcasses in a safe, sanitary and timely fashion to avoid spreading the disease and/or endangering public health.

**5.8 Transport of Carcasses**

A number of factors must be considered in determining whether and how carcasses can be transported to disposal sites or facilities, as illustrated at Appendix 3.

Transport of infected carcasses must be planned and executed with particular care, utilizing leak-proof vehicles approved for transporting hazardous material. Refrigerator trucks may be used.

Vehicles should not be overloaded – at least 24 inches of freeboard, depending on distance to be travelled and temperature, should be left clear for expansion of carcasses. Smaller carcasses should be bagged if feasible and larger carcasses covered with a layer of poly sheeting. If vehicles are not enclosed, they should be lined and an airtight vinyl tarp should be placed over the top. All vehicles must be cleaned and disinfected before leaving the infected premise and after unloading.

Vehicles should travel on designated routes, preferably with an escort vehicle. They must travel slowly to avoid splashing of contaminated material and a supply of disinfectant should be carried to deal with minor spills during transit.



**5.9 Pre-emptive Slaughter of Animals**

Carcasses and other items awaiting disposal should be secured to prevent unauthorized access, and to prevent wild animals and birds removing potentially infectious material. Control of insects should be considered if there is a risk of passive transmission by insects to nearby susceptible species. If disposal is delayed, carcasses should be thoroughly sprayed with an approved disinfectant.

The pre-emptive slaughter of animals to support attempts to control and eradicate the disease is an integral part of a response to an animal health emergency. In such cases the JEOC will normally contain a *Destruction Group*.

Given information about the disease, animal type, location of infected premises and disposal methods, the *Destruction Group* develops a strategy for destroying all animals that are known or suspected to be infected in an attempt to contain and eradicate the disease. Pre-emptive slaughter may extend, in some emergencies, to hobby farms and/or backyard poultry flocks.

Animals destroyed in this way may not be infected with the underlying disease, but will still become part of the carcass disposal operation. Such carcasses may require separate transportation and disposal channels.

Disposal should be completed as soon as possible after destruction to minimize opportunities for infectious material to disperse and to complete handling of carcasses before decomposition has set in. In some disease situations, many of the animals slated for pre-emptive slaughter may be suitable for market. The market option is preferable where possible but the animals must be transported alive to approved commercial slaughter/processing facilities using approved transportation and handling protocols.

Officials must recognize the significant emotional impact on the owners of destroyed animals and deal with these situations with appropriate empathy. Representatives from the respective producer associations may be engaged to mitigate any conflicts which arise between the producers and the *Destruction Group*.

**5.10 Impact on Human Health**

The presence of a zoonotic disease that has a potentially serious impact on human health will require close cooperation between animal health and human health officials in a carcass disposal emergency. Zoonotic diseases with a high risk of animal mortality are listed at Annex A.

In the event of an animal disease emergency the general public will be concerned with the implication of disease on their own health and that of their families. A key part of the emergency response will



be ensuring that potential threats to human health are fully understood and managed effectively, which will necessitate a comprehensive public information strategy.

In an animal disease/carcass disposal event the JEOC will normally include a *Human Health Branch*, which will be activated whenever the identified disease presents public risks associated with a zoonotic disease.

**5.11 Safety**

Personnel safety is an overriding consideration during disposal operations. Before commencing disposal work, personnel must be fully briefed on the nature of the disease and any specific hygiene requirements.

Safety issues to consider include personal hygiene facilities, the availability of rescue equipment, hearing protection and protection from dust.

Protective clothing including respirators must be worn when there is any risk to humans from the organism involved or if large amounts of dust or odour are generated. CFIA will provide advice and assistance on this requirement during an animal disease event.

**5.12 Environmental Issues**

Disposal of animal carcasses and other infectious material may have adverse environmental consequences. It is essential for the environmental aspects of proposed disposal activities to be thoroughly evaluated so as to ensure that the impact of such consequences is minimized.

Consultation with the MOE during any carcass disposal operation is required to obtain specific information, permits and ensure that current guidelines and best practices are being applied.

**5.13 First Nations**

First responders are permitted to enter First Nations lands only if specifically requested by the band officials and INAC.

Should a carcass disposal emergency affect First Nations lands, prior authorization for entry must be obtained. This will normally be done through the JEOC or PEP, but in emergency situations may be done directly with INAC and the First Nations entity involved if this is practicable.

**5.14 Media/Public Information**

An effective public information strategy is an essential part of managing an emergency. The public will demand information even if the effects of the emergency are limited, which will put an enormous premium on what local officials say publicly and how they say it. Negative public reaction can often be defused by an



articulate, calm and confident spokesperson who is able to reassure the public that the response is appropriate and effective.

Experience has shown that there will be a high demand for information throughout disposal operations. The effective integration of information is particularly important as there are likely to be several levels of responders involved. The key is to have designated public information officers and/or spokespersons from the outset, including industry representatives, who cooperate closely with each other. A clear, timely and consistent message is paramount.

Emergency information can be posted on the district web site and consideration should be given to establishing an emergency-specific web site. Facebook and Twitter and other social networking services may be utilized as additions/alternatives to traditional communications systems.

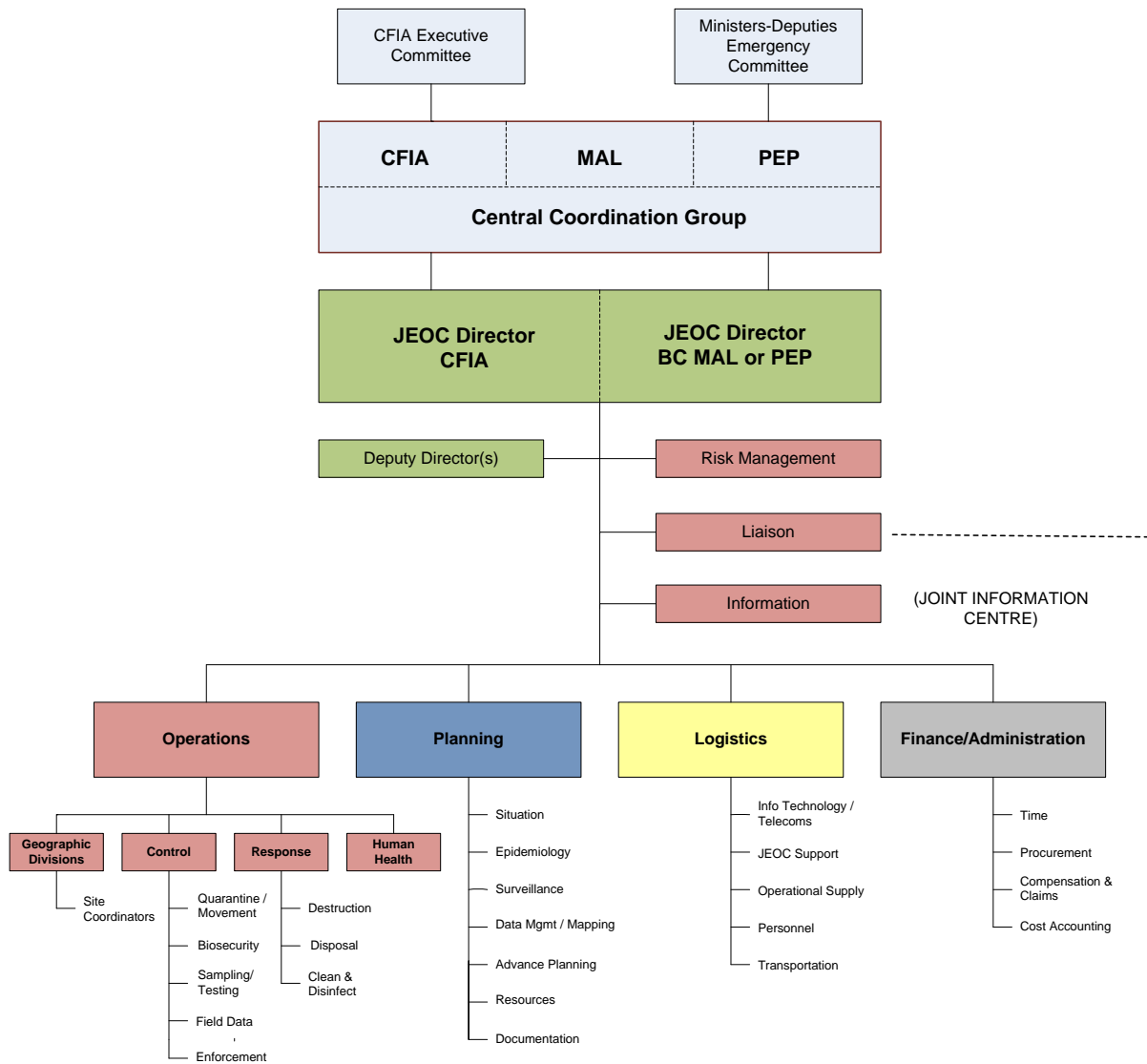
Carcass disposal operations will inevitably and unavoidably involve unpleasant scenes of dead or dying animals. Care should be taken to limit media access to certain areas and to restrict, to the extent possible and reasonable, the release of potentially disturbing images.

All organizations involved must ensure that the overarching requirement to deliver information is not unduly delayed by a perceived need to assemble complete information. The public wants to know the situation and should be briefed accordingly. An information officer should be in the EOC at all times to collect and coordinate the information being received, and to ensure that the media and public are briefed regularly and comprehensively.

A template for public information messaging is at Appendix 4.



### Appendix 1 to Section 5 Animal Disease Response – JEOC Structure



Function Chart for a Fully-Activated Federal-Provincial Joint Emergency Operations Centre (JEOC)  
(Source: FADES Plan 2009)

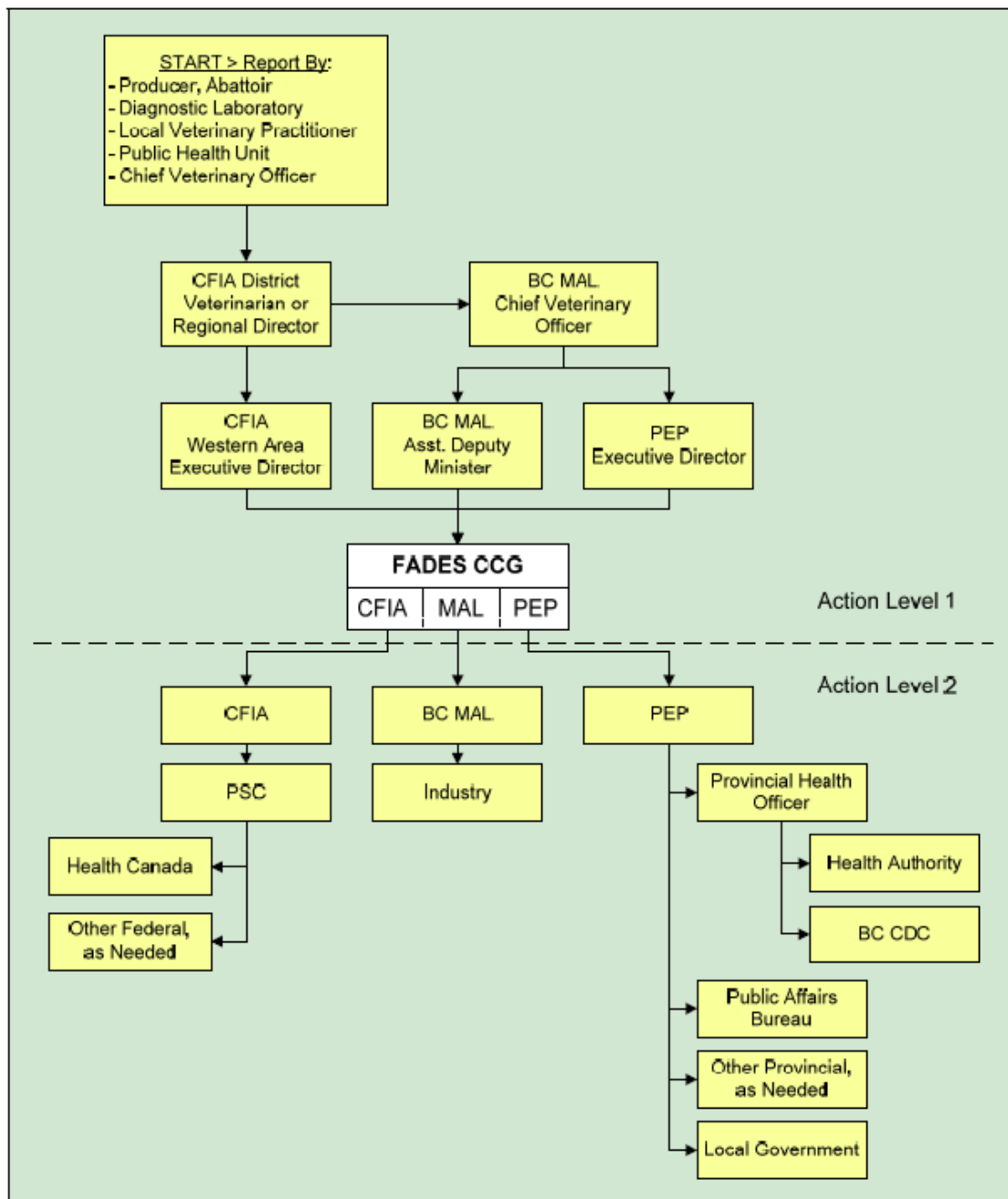
**This chart illustrates the organization of a federal-provincial JEOC during an expanded carcass disposal event. RDBN/municipal representatives would normally provide support through the Liaison Group. However, the JEOC Director may wish to have local government representation directly within the Operations, Planning or Logistics sections.**

**Local government officials will always have direct access to the JEOC Directors on matters which affect the local jurisdiction.**

**When a JEOC is activated it is likely that the RDBN EOC will also open.**



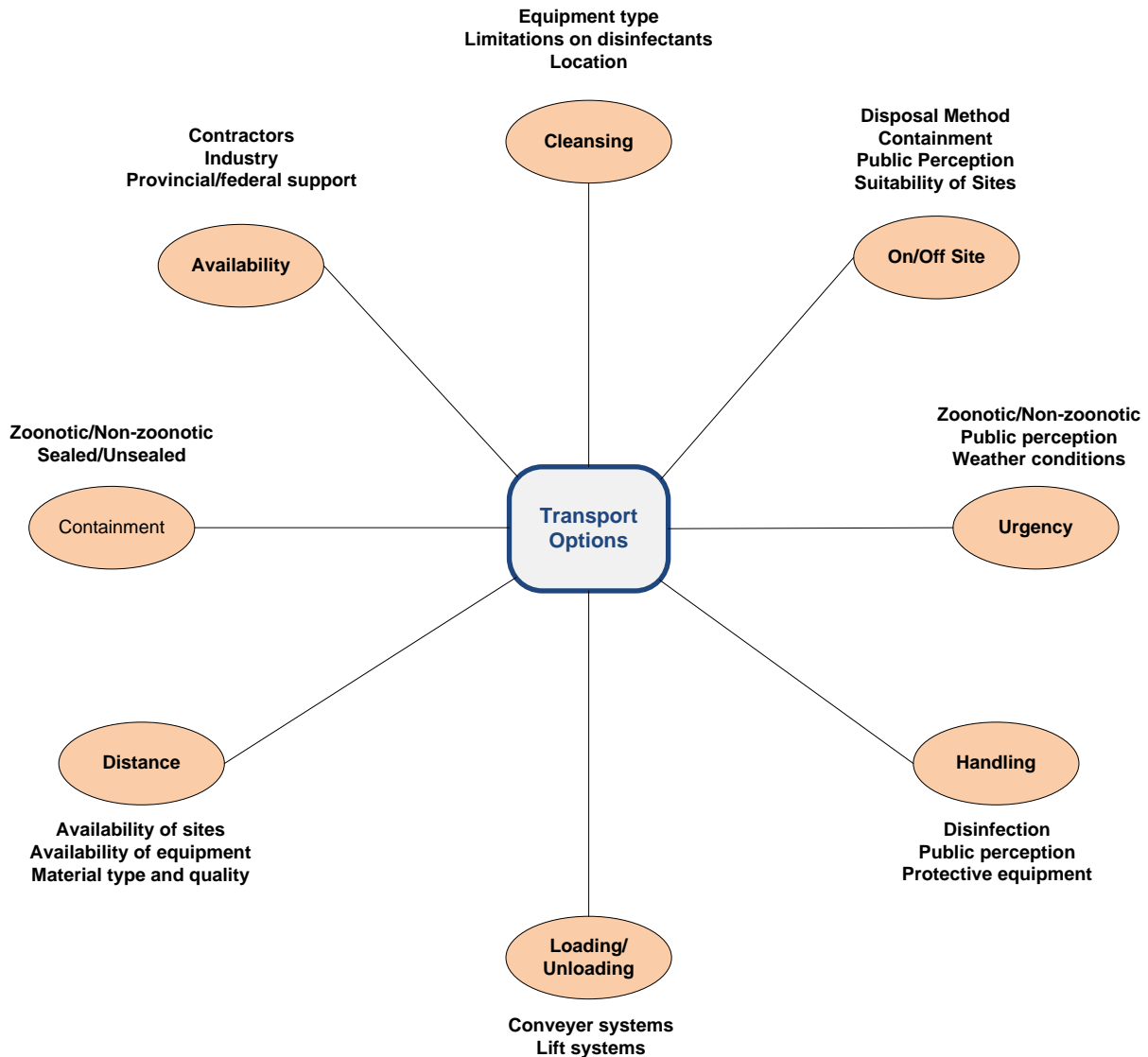
Appendix 2 to Section 5  
CFIA Expanded Response Notification Flow



(Source: FADES Plan 2009)



### Appendix 3 to Section 5 Considerations – Transportation of Carcasses



Issues to be considered in deciding options for transport.



Appendix 4 to Section 5
Public Information Messaging Template

CARCASS DISPOSAL EMERGENCY PUBLIC MESSAGE

This is a public information message to advise residents of (Regional District, Municipality, Electoral Area) that a large number of farmed animals in the area have been killed by the recent (identify emergency event). Carcasses of these animals have been reported at:

(identify location)

(Add more locations as required)

(identify location)

Arrangements are being made to remove these animal carcasses as quickly as possible. Until such time as this takes place, residents are advised to stay away from the carcasses as they are decomposing and could represent a health hazard. In particular, it is important to keep children away from the areas which contain carcasses.

Animal carcasses seen in areas other than those indicated above should be reported without delay to: (Person or office) at (Location and telephone number).

Residents may be assured that we are working closely with the livestock industry and provincial authorities to remove animal carcasses quickly and efficiently and that no major risks to human health have been identified. Further information will be provided as it becomes available.



Name and appointment of person authorizing the release of this message:

(Name)

(Date/Time of release)

(Appointment or title)

(Contact telephone number / email)



## 6. Disposal Operations – RDBN

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### 6.1 General

Disposal operations in the RDBN may take either of two forms depending on the nature of the emergency:

**In a non-disease event the RDBN will work with the local livestock industry, PEP, MAL and MOE to manage disposal operations.**



**In an animal disease event the RDBN will provide liaison and local support to federal/provincial authorities.**

### 6.2 Initiating Local Disposal Operations

The first indication of a carcass disposal event is likely to come from a local producer. If the mortalities resulted from a disease, the local jurisdiction may not be involved in, or even aware of, the initial reporting of the disease and initial inspection/testing activities by CFIA. The local government will become involved when the scale of carcass disposal requirements exceeds the producer's capacity to handle.

For a non-disease event, the responsible local jurisdiction will activate its carcass disposal emergency plan and work with applicable provincial agencies to respond to the emergency. See sub-section 6.3.

For an animal disease event in the RDBN, the CFIA District Office in Prince George, in conjunction with the District Veterinarian in Williams Lake, will coordinate the first response. CFIA will determine the initial steps to be taken until the arrival of additional CFIA personnel and resources. The RDBN may be requested to provide appropriate support as required by the situation as outlined at sub-sections 6.4 and 6.5.

Critical paths for both non-disease and animal disease events are at Appendices 1 and 2.

### 6.3 Disposal Operations: Non-Disease Event

The natural events considered most likely to affect the RDBN area are identified in Section 2.3, *Risk Profile*. For a non-disease event, the responsibility for selecting the disposal methodology will rest with the RDBN in consultation with PEP, MAL and MOE.

The selection of suitable disposal methods for a non-disease event will depend on a number of variables, including the animal species, cause of mortality, location and condition of carcasses and



environmental conditions.

A range of disposal options for a non-disease event is provided below in preferred order of priority (see Annex B for amplification of disposal methodologies):

Priority	Methodology	Notes
1	<b>On-Farm Burial</b>	<p>On-farm burial is a suitable option for a limited numbers of carcasses where geological and hydrological conditions permit.</p> <p>Burial sites must be a reasonable distance from residences, screened from view and easily secured. Soils should have low to medium permeability, sufficient distance to ground water from trench bottom and sufficient cover depth. A bottom clay layer is highly desirable to prevent leaching.</p> <p>Burial confines the carcasses but can produce large volumes of leachate. Also, the residue within a burial site will persist for many years and ultimate elimination of the carcass material represents a long-term process. Burial must therefore be used cautiously for mass disposal. See Annex B for more detailed guidance on burial site selection.</p> <p><b>Suitability:</b> Cattle and other large animals in limited numbers, sheep, hogs.</p> <p><b>Notes:</b></p> <p>(1) MOE advises against on-farm burial if the area receives more than 600 mm (23.6 inches) of annual precipitation, the seasonal high water table depth is less than 2m (6.6 feet), the site is above an unconfined aquifer or the site has coarse textured soil.</p> <p>(2) MAL in cooperation with MOE provides guidance to producers and monitors on-farm burial.</p>
2	<b>On-Farm Composting</b>	<p>Composting is currently practiced by some producers for routine mortality.</p>



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

			<p>Bin or windrow type composting is the norm.</p> <p>The bin method utilizes a walled containment structure where carcass material is placed in layers with a bulking agent (carbonaceous material such as bedding material or wood chips) and periodically turned or aerated. Windrow composting is similar but the layering is in extended linear piles allowing for considerably more capacity depending on the available space.</p> <p>In-vessel composting has also been proven effective in emergency situations. This method of composting utilizes plastic pods 3m in diameter and 66m long. Carcasses are ground and mixed with bulking agent, and pipes are used for forced aeration within the pods. This actively ventilated, pod-type composting is a good wet-weather alternative to windrow composting.</p> <p>An important factor for composting on a large scale is access to carbonaceous bulking agents such as wood chips, straw or peat moss.</p> <p>A list of companies that supply composting equipment is at Appendix 3 to Section 7.</p> <p><b>Suitability:</b> Poultry (in-barn when possible), cattle and other larger animals in limited numbers when required equipment is available.</p> <p><b>Notes:</b></p> <ol style="list-style-type: none"><li>1) The end product from composting cattle carcasses from which SRM has not been removed must be disposed of in accordance with SRM regulations.</li><li>2) On-farm composting is not subject to current regulations concerning the handling and disposal of SRM. However, compost from cattle carcasses should only be spread on areas where cattle will not graze for a minimum of five years.</li></ol>
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## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

	3	<b>Rendering</b>	<p>There is one rendering plant in BC, West Coast Reductions (WCR) Ltd., located in Vancouver. WCR renders smaller animal carcasses on site and ships bovine and horse carcasses to a subsidiary WCR plant in Calgary for processing. WCR is not currently permitted to render infected carcasses and will not render goats, sheep, ratites, llamas or alpacas.</p> <p><b>West Coast Reduction Ltd.</b> 105 North Commercial Drive Vancouver, BC V5L 4V7 604-255-9301 <a href="http://www.wcrl.com/index.htm">www.wcrl.com/index.htm</a></p> <p>Rendering is a practical option for a limited numbers of carcasses. Cattle carcasses would be transported to Calgary.</p> <p><b>Suitability:</b> Cattle, poultry, hogs.</p> <p><b>Note:</b> Dead animals have to be at the gate of the rendering facility within 24-36 hours after death. Coordination of transport resources is therefore critical.</p>
	4	<b>Incineration</b>	<p>High-temperature incineration is an effective disposal option. However, there are no large-scale, fixed-facility incinerators in the RDBN. There is a limited-capacity incinerator in Burnaby, but it currently does not accept carcass material for disposal.</p> <p>A large incinerator exists at the Swan Hills facility in Alberta, however costs and bio-security risks of long-distance transport would have to be considered.</p> <p><b>Suitability:</b> All animals.</p> <p><b>Note:</b> Incineration of cattle carcasses must meet specified critical temperatures in accordance with SRM regulations. CFIA approval is required.</p>
	5	<b>Central Composting</b>	<p>Off-farm composting is acceptable if suitable sites are available.</p>



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

		<p>Sites should be on high ground with good drainage. A preferred base is a concrete pad, asphalt or packed gravel, however a field with vegetative cover is acceptable if leachate can be contained.</p> <p>The composting site must be at least one meter above the high water table level and 3m from any water source used for domestic purposes. Minimum recommended site size is 20 acres.</p> <p><b>Suitability:</b> Poultry, sheep, hogs. Limited suitability for cattle and other large animals.</p> <p><b>Notes:</b></p> <p>1) Potential sites should be identified in advance or early in the emergency (see Appendix 5).</p> <p>2) The end product from central composting of cattle carcasses from which the SRM has not been removed must be disposed of in accordance with SRM regulations.</p>
6	<b>Landfill</b>	<p>The Knockholt Western Sub-Regional Landfill and the Clearview Eastern Sub-Regional Landfill both have permits from CFIA to accept limited volumes of SRM. However, neither landfill is suitable for the disposal of large numbers of animal carcasses in a farmed animal mass carcass disposal emergency.</p> <p><b>Note:</b> CFIA permitting requirements for the disposal of SRM in landfills are set out at: <a href="http://www.inspection.gc.ca/english/anim/heasan/disemala/bseesb/enhren/pe/mie.shtml">http://www.inspection.gc.ca/english/anim/heasan/disemala/bseesb/enhren/pe/mie.shtml</a></p>
7	<b>Air-Curtain Burning</b>	<p>Air curtain burning utilizes a trench or contained system with a forced air supply. It produces lower temperatures than incinerators and is a less desirable option.</p> <p>A list of suppliers of air curtain burners is at Appendix 3 to Section 7.</p>



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

		<p><b>Suitability:</b> Poultry, sheep, hogs. Limited numbers of cattle carcasses where SRM has been removed.</p> <p><b>Note:</b> No air curtain burning of SRM is allowed due to the risk presented by fly ash.</p>
8	<b>Central (Trench) Burial</b>	<p>Off-farm burial is suitable for large numbers of carcasses, but is likely to meet with public opposition. Sites remote from populated areas with limited access such as in logged or burned over areas may be acceptable if the terrain, geological and hydrological conditions are suitable.</p> <p><b>Suitability:</b> Cattle and other large animals, sheep, hogs.</p> <p><b>Note:</b> The RDBN does not own land that would be suitable for central burial.</p>

The options listed above will also apply to the Districts of Vanderhoof and Houston for a non-disease emergency in either of those districts. However because of potentially higher water tables in these areas Options 1 and 2 would be reversed, giving priority to on-farm composting.

The choice of disposal options and sites must always be made in close consultation with MAL, MOE and/or PEP. SRM regulations apply to bovine carcasses in all cases. MAL disposal protocols provide detailed information concerning disposal choices. MAL must be contacted for current information prior to any final decisions about disposal methods being made:

<p><b>MINISTRY OF AGRICULTURE AND LANDS</b></p> <p><b>Resource Management Branch</b>  <b>Waste Management Engineer</b>  <b>604-556-3001</b>  <a href="http://www.al.gov.bc.ca/resmgmt/index.htm">http://www.al.gov.bc.ca/resmgmt/index.htm</a></p>
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Guidelines for the selection of potential disposal sites for burial and composting within the RDBN are at Appendix 5.

### 6.4 Disposal Operations: Animal Disease Event

For an animal disease event, the responsibility for disposal rests with CFIA, in consultation with provincial and local officials:



**CANADIAN FOOD INSPECTION AGENCY**

**BC Mainland/Interior Regional Office**

**4321 Still Creek Drive**

**Burnaby, BC V5C 6S**

**604-666-2847**

<http://www.inspection.gc.ca/english/directory/offbure.shtml#w-o>

**Animal Health Office (Prince George)**

**250-561-6924**

**District Veterinarian (Williams Lake)**

**250-305-3004**

<http://www.inspection.gc.ca/english/anima/heasan/offbure.shtml>

The disposal options listed for a non-disease event in sub-section 6.3 above will apply generally to an animal disease event, however the decision on disposal methodology will be made by federal/provincial authorities in consultation with the RDBN and, if applicable, its partner municipalities.

There are special considerations for the disposal of infected carcasses which, combined with the larger numbers of carcasses expected in an animal disease event, will affect the priority order of disposal options. Rendering is not currently permitted for infected carcasses, although animals pre-emptively slaughtered could still be shipped to West Coast Reduction Ltd. Burial and incineration may be favoured in an animal disease event.

**6.5 Probable Roles and Tasks: Animal Disease Event**

During an animal disease event RDBN emergency staff will likely be located in the JEOC to provide support to federal/provincial carcass disposal operations. Roles and tasks for local government could include:

**a) *Assisting Federal/Provincial Agencies***

Provide advice on local conditions and facilities to federal and provincial organizations as required, including PEP, MAL, MOE, and CFIA. Early support will include assistance with locating and obtaining a suitable JEOC facility and coordinating local support.

**b) *Assessment of Requirements***

Liaise with local producers and provide advice to the JEOC on the scope and scale of the carcass disposal emergency in the local area.



**c) Enforcement**

Utilize local police and other first responders to provide assistance to CFIA in enforcing movement restrictions.

**d) Assist with Identification of Disposal Methods**

Provide advice to JEOC staff on local conditions (meteorological, transportation routes, hazards, etc) which will assist in selecting appropriate disposal methodologies.

**e) Disposal Site Selection**

Identify potential disposal sites within the local area.

**f) Coordinating Support**

Identify resources required for carcass disposal including and assist in coordination throughout the emergency.

**g) Public Information**

Timely response to local public concerns and ensuring the timely passage of information among participating entities is of key importance during a carcass disposal emergency. The coordination of public information among federal, provincial and local resources will be done in the Joint Information Centre (within the JEOC). A sustained effort is required to make certain that current information is passed to all stakeholders, including local industry representatives, adjacent jurisdictions, health sector organizations and all other organizations engaged in or associated with, the emergency response. Also see sub-section 5.14.

**6.6 Threats to Human Health**

The RDBN should maintain close communication with Northern Health and local medical facilities throughout carcass disposal operations to ensure that potential threats to human health and mitigating strategies are identified and communicated to the public.

Such communication will be the responsibility of Northern Health, however the RDBN may be requested to assist through local media, town hall meetings or other public information strategies and mechanisms.

**NORTHERN HEALTH AUTHORITY**

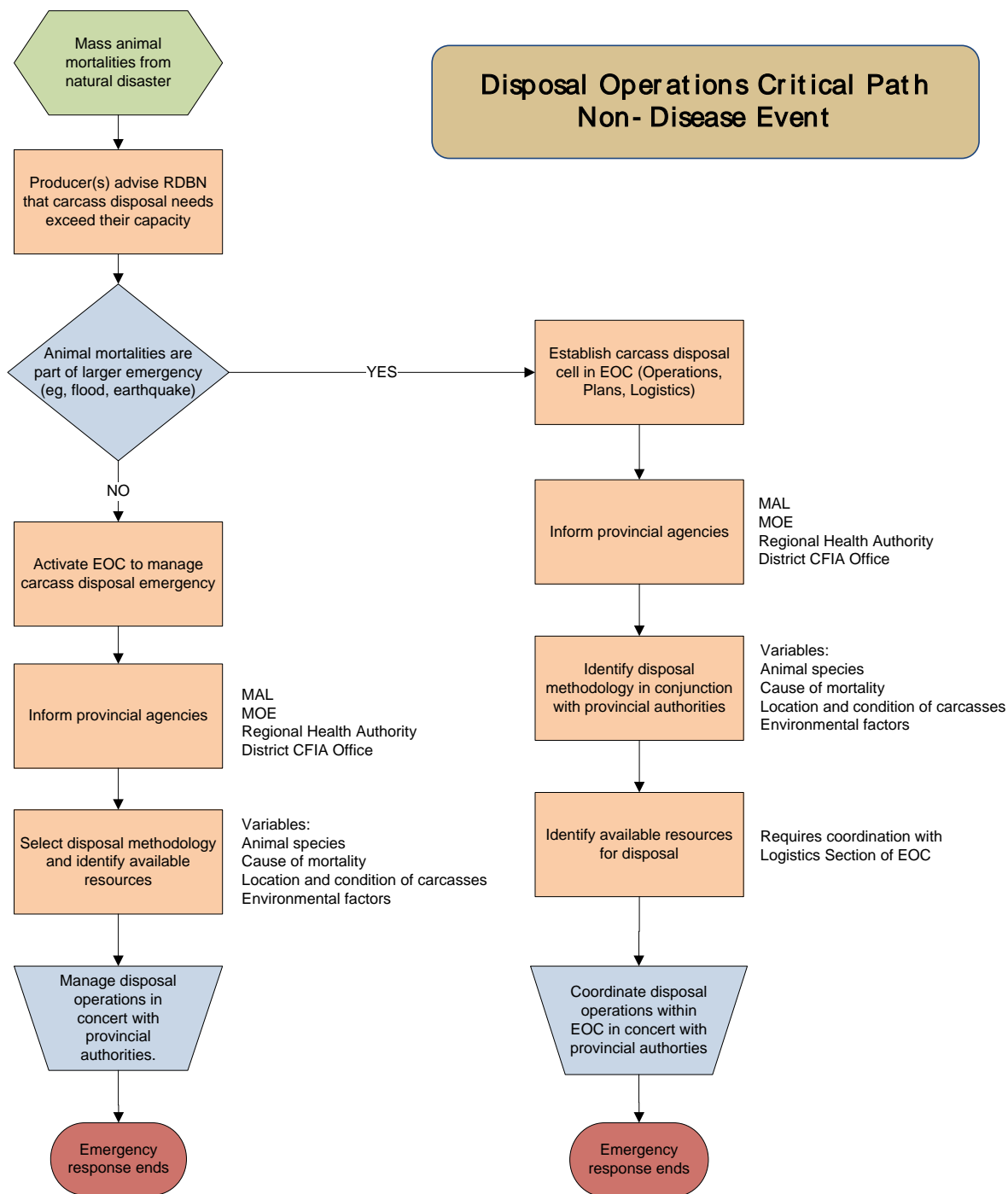
**Corporate Office (Prince George)  
250-565-2649**

**Emergency Preparedness Office (Prince George)  
250-565-2108**

[http://www.northernhealth.ca/Contact\\_Us/](http://www.northernhealth.ca/Contact_Us/)

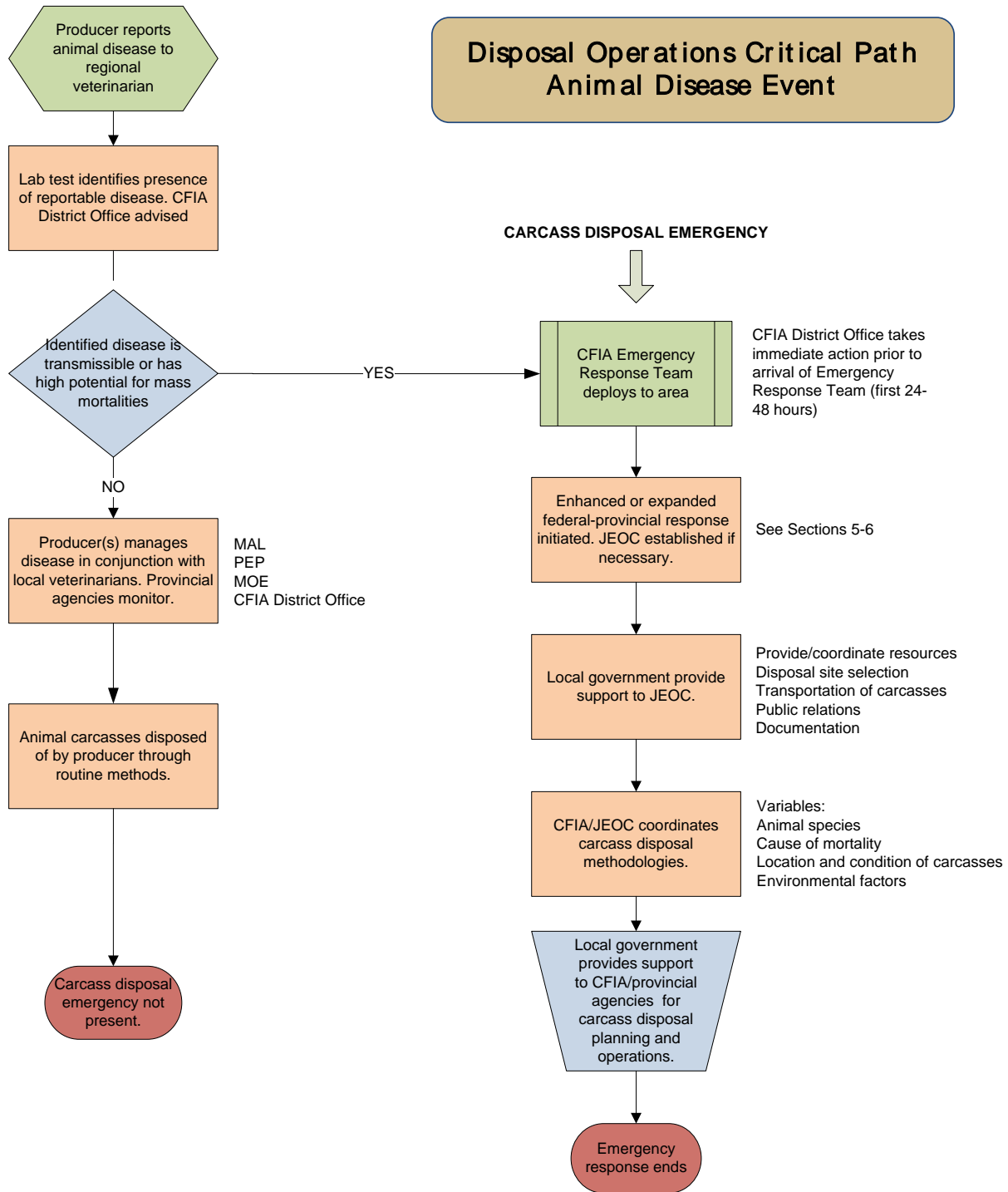


Appendix 1 to Section 6  
Critical Path – Non-Disease Event





Appendix 2 to Section 6  
Critical Path – Animal Disease Event





## Appendix 3 to Section 6 RDBN – Regional Landfills

### Knockholt Western Sub-Regional Landfill

The Knockholt Western Sub-Regional Landfill is located approximately 9 kilometers northeast of Houston, south of the Yellowhead Highway (Highway 16) on Aitken Road. The civic address is 8072 Aitken Rd.



The site is located on a 33 hectare land parcel, approximately 800 meters south of the Bulkley River. The legal description of the property is the *Southwest Corner of District Lot 8044, Range 5, Coast District*. Current landfill activities are limited to the western portion of the property and the existing limit of waste encompasses an area of approximately 4 hectares.

Currently, the site serves a population of approximately 24,000 and accepts an estimated 13,000 tonnes of waste per year.

The site was originally permitted as a waste management facility in August 1990, under Permit No. PR-8856. The landfill is currently approved to operate under Operational Certificate No. MR-8856 issued by the British Columbia MOE on May 23, 2003.

The Knockholt Western Sub-Regional Landfill is an engineered landfill including a leachate collection and treatment system which consists of:

- Leachate collector pipe along the northwest side of the landfill (Phase 1) which is tied into the main collection pipe.
- PVC toe collection pipe which runs along the bottom of Phase 2 and 3.
- HDPE collector line in Phase 2 located above natural clay liner and within aggregate drainage base material.
- Facultative lagoon.
- Engineered wetland polishing system prior to discharge of treated effluent to ground.



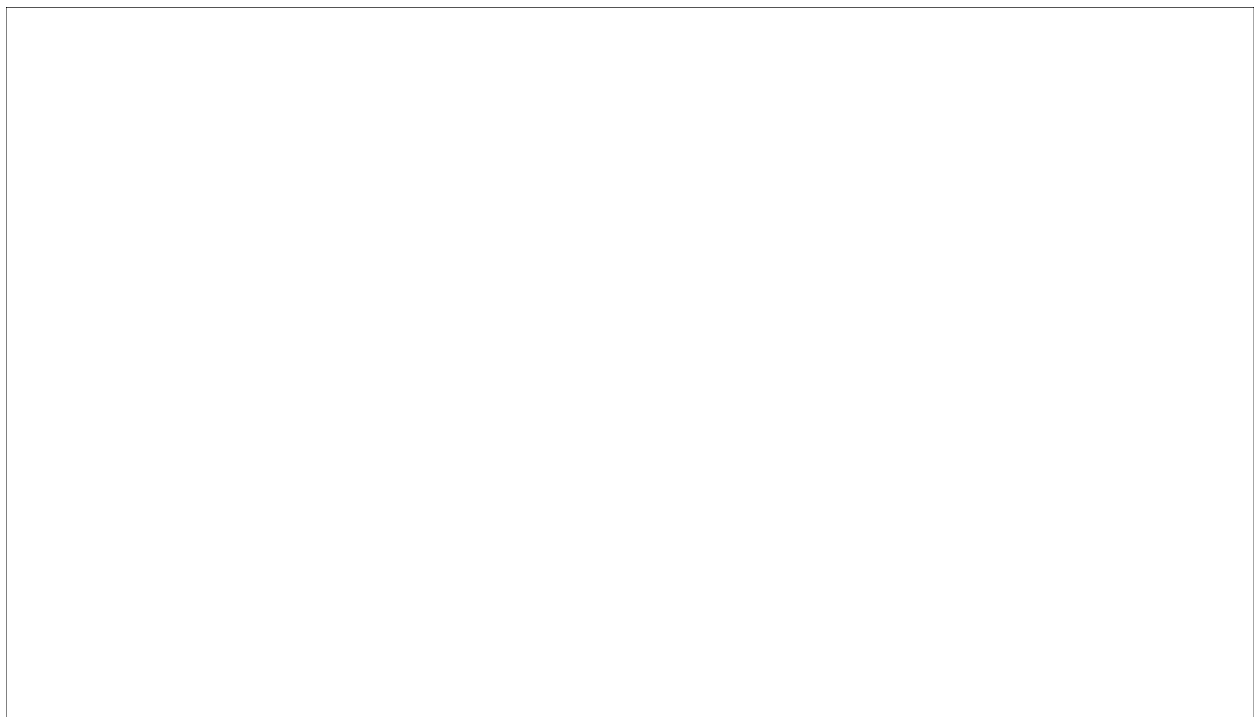
## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

The landfill is permitted by the Canadian Food Inspection Agency (CFIA) to accept limited volumes of Specified Risk Material Waste (Permit VWLE-0000006).

The Knockholt Western Sub-Regional Landfill has the capability of providing animal carcass disposal on a very limited basis. **Therefore, the Knockholt Western Sub-Regional Landfill is unsuitable for farmed animal mass carcass disposal activities and should not be considered as a viable disposal option in an emergency event.**

### Clearview Eastern Sub-Regional Landfill

The Clearview Eastern Sub-Regional Landfill is located approximately 22 kilometers north of the junction between Highways 16 and 27, between Vanderhoof and Fort Saint James, British Columbia. The civic address is 22095 Hwy 27 South.



The landfill site has a total permitted area of approximately 168 hectares, with a current landfill footprint of approximately 2.0 hectares. The legal description of the property is "Unsurveyed Crown land in the vicinity of Clear Creek, North of Section 36, Township 18, Range 5, Coast District".

The Site was developed in 2005 and began to accept waste on November 15th, 2005. The facility currently operates under Operational Certificate MR-17686 which was issued November 24, 2005 by the British Columbia Ministry of Environment under the provisions of the *Environmental Management Act*.

The landfill is currently operated as a natural attenuation site although an engineered liner system with leachate collection and treatment infrastructure is in the preliminary evaluation stages.

The landfill is permitted by the Canadian Food Inspection Agency (CFIA) to accept limited volumes of Specified Risk Material Waste (Permit VWLE - 0000005).

The Clearview Eastern Sub-Regional Landfill has the capability of providing animal carcass disposal on a very limited basis. **Therefore, the Clearview Eastern Sub-Regional Landfill is unsuitable for farmed**



animal mass carcass disposal activities and should not be considered as a viable disposal option in an emergency event.

### Manson Creek Landfill

The Manson Creek Landfill is located approximately 6 km northwest of Manson Creek, BC, and is accessed by the Finlay-Manson Forest Service Road. The legal description of the property is *Unsurveyed crown land in the vicinity of Jackfish Creek, Cassiar Land District, covering 4.0 hectares, more or less.*



The site is operated under Permit No. PR-7912 issued under the provisions of the *Environmental Management Act*. The site has been permitted as a natural control facility since 1987.

The Manson Creek Landfill is operated as an unattended facility and serves a population base of approximately 70 people living in and around the communities of Manson Creek and Germansen Landing.

The site is operated using a trench landfilling methodology with the annual volume of refuse disposed unknown. The site is not federally permitted to accept Specified Risk Material waste.

**The Manson Creek Landfill is unsuitable for farmed animal mass carcass disposal activities and should not be considered as a viable disposal option in an emergency event.**



Appendix 4 to Section 6  
RDBN Landfills – Cattle Carcass Disposal



## CATTLE CARCASS DISPOSAL POLICY

Beginning July 12, 2007 new Federal regulations, which impact industry, ranchers and local governments, came into effect in an effort to help eliminate bovine spongiform encephalopathy (BSE), or mad cow disease. The new regulations, termed Enhanced Feed Ban, are under the direction of the Canadian Food Inspection Agency and impact the disposal of waste categorized as Specified Risk Material (SRM).

**SRM waste is defined as:**

- the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older;
- the distal ileum (portion of the small intestine) of **cattle of all ages**; and
- **cattle deadstock**.

**Available Disposal Options**

Materials classified as SRM waste including cattle deadstock **will only** be accepted for disposal at the Regional District Sub-Regional Landfill facilities. These are:

- Knockholt Western Sub-Regional Landfill (located near Houston, BC)
- Clearview Eastern Sub-Regional Landfill (located between Vanderhoof and Fort St. James, BC)

**Cattle deadstock or materials designated as SRM waste will however not be accepted at the Knockholt or Clearview Landfills without the disposer possessing a valid CFIA permit, which is also required for transportation purposes.** An addition, a **visible stripe** must be visible down carcasses' backs, and **all SRM must be stained**.

To obtain a CFIA permit please call the **Canadian Food Inspection Agency, Williams Lake District Office – (250) 305-3004**. Should SRM waste or cattle deadstock arrive at the Landfill without a valid CFIA permit or the carcasses are not marked appropriately, the waste will be refused for disposal.

Should you have any questions regarding the new Enhanced Feed Ban Regulations or disposal options, please contact the **Director of Environmental Services for the Regional District of Bulkley-Nechako at 692-3195 or 1-800-320-3339**.

Please direct any questions or concerns regarding this policy to the Regional District Environmental Services Department at 692-3195 or 1-800-320-3339. [www.rdbn.bc.ca](http://www.rdbn.bc.ca)

"A WORLD OF OPPORTUNITIES  
WITHIN OUR REGION"



**Appendix 5 to Section 6  
RDBN – Disposal Site Selection**

Minimum site size is 20 acres, but burial sites for large numbers of carcasses may have to be significantly larger.

The basic guidelines for site selection for burial and composting are shown below. It should be noted that sites are normally identified initially on the basis of size, location and availability only, **and will require comprehensive geo-technical and environmental surveys before being approved for carcass disposal.**

Burial	Composting
<p>Sites should be at least 10m above the high water table and 300m away from wells or watercourses used for domestic purposes. Locations above an existing aquifer are excluded due to the potential for contamination.</p> <p>Flood prone areas, steep slopes and bedrock are not acceptable and will not be considered.</p> <p>Sites should be at least 400m from provincial highways, 100m from provincial roads or railroads and 300m from private residences.</p> <p>Access to the site must be suitable for heavy equipment and the delivery of livestock carcasses in transporter trucks.</p> <p>Sites must have soils with good stability capable of withstanding the weight of equipment used to construct and fill the pits.</p>	<p>Sites should be at least 1 m above the high water table and 30 m away from wells or watercourses used for domestic purposes. Flood prone areas, steep slopes and bedrock will not be considered.</p> <p>Sites should be on high ground with good drainage where pooling of water does not occur.</p> <p>The preferred base is a concrete pad, asphalt or packed gravel, however a field with vegetative cover can be used if it will support equipment and leachate can be effectively contained.</p> <p>Access to the site must be suitable for the delivery of livestock carcasses in transporter trucks.</p> <p>The site should be shielded from public view and secure from animal predators.</p>

Potential sites should be identified in advance of a carcass disposal emergency, however if this is not feasible then sites will be identified as early as possible within the emergency response. It should be noted that the RDBN does not own any land suitable for this process.

More detailed information on site considerations and selection is outlined in Annex B.



## 7. Disposal Resources – RDBN

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<b>7.1 General</b>	<p>A key to managing mass carcass disposal is in the identification and provision of appropriate resources. This includes resources for the storage and transportation of carcasses as well as those needed for the actual disposal.</p> <p>Each mass carcass disposal event will be unique, and therefore no complete list of required disposal resources can be developed. The resources will always need to be specifically tailored to the situation.</p>
<b>7.2 Resource Requirements</b>	<p>Disposal resources for carcass disposal will normally include transportation, heavy equipment, carbonaceous bulking agent such as wood chips or straw and protective/safety equipment for personnel.</p> <p>A generic equipment list for disposal operations is outlined in Appendix 1 to this section.</p>
<b>7.3 Specialized Disposal Resources</b>	<p>Specialized disposal resources will be required in certain circumstances. They include a broad range of items from professional engineering, environmental and geotechnical consultants to specialized equipment and supplies. Examples are:</p> <ul style="list-style-type: none"><li>a) air-curtain burners;</li><li>b) composting equipment;</li><li>c) container equipment;</li><li>d) generators; and</li><li>e) decontamination equipment and chemicals.</li></ul> <p>A specialized equipment list for disposal operations is outlined in Appendix 2.</p>
<b>7.4 Resource Availability</b>	<p>The RDBN does not own or hold heavy equipment and other resources required for a carcass disposal emergency. However, local suppliers/equipment hire contractors can provide a good range of resources on a commercial basis. Appendix 3 lists commercial disposal resources and equipment suppliers.</p> <p>Map locations and a list of provincially licensed slaughter facilities/meat plants in BC are outlined in Appendix 4.</p>
<b>7.5 Resource Gap Analysis</b>	<p>The RDBN does not possess the equipment or resources required to respond to a carcass disposal emergency. While many of the</p>



necessary resources can be obtained in the local area, shortfalls will continue to exist in the following areas:

- a) **Incinerating Capacity.** There is no large fixed-facility biological incinerator in the RDBN or the surrounding area, and only one in BC (Burnaby). The Burnaby incinerator is not well set up to receive carcass material, which limits its usefulness. There is currently no known commercial source in BC for suitable portable incinerators.
- a) **Rendering Capacity.** The only facility available in BC is the West Coast Reductions Ltd. plant in Vancouver, which has little surge capacity and ships cattle and horse carcasses to Calgary for processing. WCR is not currently approved to handle infected carcasses. Rendering is limited by logistical and bio-security concerns posed by the distance to available rendering facilities.
- b) **Suitable Landfills.** The Knockholt Western Sub-Regional Landfill and the Clearview Eastern Sub-Regional Landfill both have permits from CFIA to accept limited volumes of SRM. However, neither landfill is suitable for the disposal of animal carcasses in a farmed animal mass carcass disposal emergency.
- c) **Composting Equipment and Supplies.** Should composting be selected as a primary means of disposing of cattle or other large carcasses, the necessary supplies and equipment would have to be sourced from outside the district.
- d) **Personal Protective Clothing.** The RDBN does not hold stocks of personal protective clothing for individuals who may have to visit infected premises or handle carcasses in a disposal emergency.<sup>Note 1</sup>

**Note 1:** The type of personal protective clothing and equipment required depends on the nature and transmissibility of the animal disease. CFIA will provide guidance on the type of equipment required for the situation and where it may be sourced. Personal protective clothing will normally consist of N95 masks, gloves, impermeable coveralls, protective footwear and eye protection.

### 7.6 Disposal Challenges

Other challenges related to the ability of the RDBN to respond to a carcass disposal emergency are:

- b) **On-site burial** for large carcass volumes may be restricted for some farms due to high water tables, flood horizons, soil depth, gradients and spatial requirements.



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

- c) **Off-site burial** will require careful site selection to confirm suitability of topography, soils, drainage and security. The RDBN does not own any land suitable for central burial.
- d) **On or off-site composting** will require careful site screening to confirm water tables, drainage and availability of the necessary composting materials.



**Appendix 1 to Section 7  
Generic Disposal Equipment List**

(Note: See Appendix 3 for equipment suppliers).

<b>Equipment Type</b>	<b>Requirement</b>
<b>Transportation:</b>	Trucks up to 1-ton for equipment transport. Vans/minibuses for personal transport. Heavy trucks, approved for transporting hazardous material (leak-proof hazardous material trucks, refrigerator trucks or trucks with liners and tarps to prevent leakage/wind loss).
<b>Heavy Equipment:</b>	Excavators (for burial operations). Graders (for burial operations). Tractors with front-end loader. Backhoes with front-end loader. Midsize skid-steer loaders. High-lift front-end loaders. Cranes. Loading ramps. Bulldozers. Water tanker (if no water source at sites).
<b>Light Equipment:</b>	Motorized pressure spray units (cleaning, washing and disinfection of vehicles and containers) Generators, various capacities. Pumps. Compressors. Fans (blowers)
<b>Safety and Security:</b>	Warning signs. Portable disposal site lighting. Road pylons. Site marking tape. Identification badges
<b>Personal Protection:</b>	Protective clothing including footwear. Coveralls (for temporary visitors to disposal sites). Masks or respirators. Decontamination equipment and chemicals. Medications such as antivirals (controlled by medical staff). Portable toilets. Temporary shower and changing facilities. Clothes washing facilities. Walk-through footwear disinfectant facility.
<b>Miscellaneous:</b>	Tow chains. Bins for temporary storage of carcasses. Bags if required for transport of small carcasses. Poly sheeting and tarpaulins. Plastic film.



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

	<ul style="list-style-type: none"><li>Garbage cans and/or metal bins.</li><li>Disinfectant.</li><li>Lime.</li><li>Digging tools.</li><li>Cleaning and disinfectant supplies.</li><li>Hand tools (shovels, picks, rakes, etc).</li><li>Pickets / portable fencing.</li><li>Ag-Bags for in-vessel composting.</li><li>Composting thermometers.</li><li>Grinders with screens.</li><li>Ag-Bag filling machine.</li><li>Carbon source / bulk agent (litter, sawdust, straw, wood chips/shavings).</li><li>Water hoses.</li><li>Fuel for pyres / air curtain burners.</li><li>Cell phones.</li><li>Digital cameras or camcorders.</li></ul>
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**(Note:** See Appendix 3 for equipment suppliers).



## Appendix 2 to Section 7 Specialized Disposal Equipment List

This list provides guidance for specific disposal methodologies. It is not intended to provide a complete inventory of equipment/resources required for every foreseeable situation – each disposal emergency will have its own detailed needs. The list does, however, provide a basis for planning and a starting point for the allocation and deployment of resources.

(Note: See Appendix 3 for equipment suppliers).

Disposal Methodology	Resources Required
<b>Burial</b>	For burial, the preferred equipment for digging burial pits is an excavator. This equipment is the most efficient available for the construction of long, deep, vertically sided pits. Other advantages include the ability to easily store topsoil separate from subsoil and the equipment can be used if required to fill the pit with carcasses or other materials and closing the pit without disturbing the carcasses. Carcass conveyance such as a tractor with front-end loader. Tow chain. Disposal bins. Vans or other vehicles for personnel transport. Vehicles approved for transporting hazardous material. Bags if required for transport of carcasses (poultry). Poly sheeting and tarpaulins. Disinfectant. Protective clothing.
<b>Burning</b>	Backhoe with front-end loader. Digging tools. Vans or other vehicles for personnel transport. Vehicles approved for transporting hazardous material. Bags if required for transport of carcasses (poultry). Poly sheeting and tarpaulins with anchors. Disinfectant. Protective clothing. Suitable fuel for pyres. Preferred: air curtain burners.
<b>Rendering</b>	Vehicles suitable for transporting hazardous material. Poly sheeting and tarpaulins with anchors. Bags if required for transport of carcasses (poultry). Front-end loader. Tow chain. Vans or other vehicles for personnel. Disinfectant. Protective clothing.
<b>Composting</b>	Midsized front-end or skid-steer loader. Hand tools. Composting thermometers.



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

	<p>Carbon source (litter, sawdust, etc). Moisture meter. Water hose and supply. Warning signs. Poly sheeting and tarpaulins with anchors. Cleaning and disinfectant supplies.</p>
<b>Incineration</b>	<p>Vehicles suitable for transporting hazardous material. Poly sheeting and tarpaulins. Front-end loader. Tow chain. Incineration equipment suitable for the carcass type(s) being disposed of. Vans or other vehicles for personnel. Protective clothing.</p>

**(Note:** See Appendix 3 for equipment suppliers).



**Appendix 3 to Section 7  
Disposal Resources and Equipment Suppliers**

**HEAVY EQUIPMENT – RDBN**

Heavy equipment listings for the RDBN are provided on the website shown below. This site lists all of the heavy duty equipment available in the region commercially and is updated annually by RDBN staff.

<http://www.mining.rdbn.bc.ca>

**GEO-TECHNICAL AND ENVIRONMENTAL SERVICES**

(These companies provide testing and analysis of unprocessed soil, sediment and aggregate samples).

<p><b>AMEC</b> 3456 Opie Crescent Prince George, BC V2N 2P9 250-564-3243 Box 3966, #3-3167 Tatlow Road Smithers, BC V0J 2N0 250-847-8783 <a href="http://www.amec.com/">www.amec.com/</a></p>	<p>An earth and environmental consulting business covering all aspects of environmental services, geotechnical engineering, infrastructure, materials testing and engineering and water resource services. Contaminated sites and groundwater testing and monitoring.</p>
<p><b>EWD Consulting Corporation</b> 10707 - 101 Avenue Fort St. John, BC V1J 5J4 250-785-0660 <a href="http://www.eba.ca/">www.eba.ca/</a></p>	<p>Terrain evaluation and other geo-technical and environmental services.</p>
<p><b>Golder Associates Ltd.</b> 101 - 2918 Eby Street Terrace, BC V8G 2X5 250-635-3444 <a href="http://www.golder.com/">www.golder.com/</a></p>	<p>Ecological services, geo-technical surveys/testing, hydrogeological services, geotechnical engineering, risk assessment/toxicology, environmental management and remediation.</p>
<p><b>Levelton Consultants Ltd.</b> 150-12791 Clarke Place Richmond, BC V6V 2H9 604-278-1411 <a href="http://www.levelton.com/">www.levelton.com/</a></p>	<p>Specialist engineering and scientific services including materials engineering, quality assurance, environmental and geotechnical.</p>
<p><b>McElhanney Consulting Services Ltd.</b> PO Box 787, 3907 4<sup>th</sup> Avenue Smithers, BC V0J 2N0 250-847-4040 <a href="http://www.mcelhanney.com/mcsl/">www.mcelhanney.com/mcsl/</a></p>	<p>Cadastral surveys, engineering and topographic surveys, environmental services.</p>



### ENVIRONMENTAL/ECOLOGICAL SERVICES

<b>Kala Groundwater Consulting</b> 1314 McGill Road Kamloops, BC V2C 6N6 250-373-9194 <a href="http://www.kalagroundwater.com">www.kalagroundwater.com</a>	An earth sciences consulting firm providing technical support in the development, protection and management of surface and groundwater resources.
<b>PHH ARC Environmental</b> PO Box 22041 Prince George, BC V2N 4Z8 250-562-5333 <a href="http://www.phharcenv.com">www.phharcenv.com</a>	An environmental services company which provides a wide range of environmental, engineering, geosciences and health & safety solutions.
<b>Sumas Environmental Services Inc.</b> 1374 Kootenay Way Kamloops, BC V2C 5L7 <a href="http://www.sumas.net">www.sumas.net</a>	A waste management and environmental services company specializing in all phases of site remediation, industrial and hazardous waste management and pollution prevention.
<b>Summit Environmental Consultants Inc.</b> #200-2800 29 <sup>th</sup> Street Vernon, BC V1T 9P9 250-545-3672 <a href="http://www.summit-environmental.com">www.summit-environmental.com</a>	Offers consulting Services in environmental assessment and planning, contaminated sites, water quality, geosciences and soil science.
<b>Marlim Ecological Consulting Ltd.</b> 650 3rd Avenue Prince George, BC V2L 3C4 250-564-4338 <a href="http://www.marlimecological.com">www.marlimecological.com</a>	Provides services to the forest, mining, engineering, government and private sectors. Environmental Impact Assessments (EIA), and environmental audits; Phase I and II contaminated site investigations; water quality sampling, assessment, bio-monitoring and sample analysis.

### COMPOSTING SERVICES AND EQUIPMENT

<b>Pacific Forage Bag Supply Ltd.</b> 4404-50 <sup>th</sup> Street Delta, BC 604-946-5026 <a href="http://www.pacbag.com/">http://www.pacbag.com/</a>	Bags and other items for carcass composting.
<b>Transform Compost Systems Ltd.</b> 3911 Mt. Lehman Road Abbotsford, BC 604-856-2722 <a href="http://www.transformcompost.com/">http://www.transformcompost.com/</a>	Broad range of composting services including farm waste and mortalities. Provided composting services and advice during 2004 AI event.
<b>Grandview Transport Ltd.</b> 220 Fort Street Prince George, BC V2L 4Y8 250-563-8236 (no web site)	Trucking services, sawdust and shavings.



### AIR-CURTAIN BURNERS

<b>ABY-2 Environmental</b> Prince George, BC 250- 614-1483 <a href="http://portableincinerators.net/">http://portableincinerators.net/</a>	Locally manufactured auxiliary fuel-fired (propane) portable air curtain burners with under-fire and over-fire air and continuous ash removal.
<b>Air Burners, LLC</b> 4390 Cargo Way Palm City, Florida 34990 772-220-7303 After hours: 561-248-9011 <a href="http://www.airburners.com/">http://www.airburners.com/</a>	Manufactures above-ground air curtain destructors and in-ground trench burner systems utilized for wood waste disposal and disaster recovery operations including carcass disposal.
<b>Gemaco Sales Ltd.</b> 144 - 1735 Dolphin Avenue Kelowna, BC 1-800-663-7574 250-762-3939 <a href="http://www.gemacosales.com/">http://www.gemacosales.com/</a>	Represents Air Burners LLC products in BC (see above), including refractory walled portable air burners and trench burners.
<b>Industrial Cleanburn</b> 7795 Mays Road Duncan, BC 250-746-1918 <a href="http://www.industrialcleanburn.com/">http://www.industrialcleanburn.com/</a>	Sell, rent, lease and contract air curtain units manufactured in USA.
<b>Mounce Construction Ltd.</b> Box 814 Salmon Arm, BC 250-832-9786 <a href="http://www.mounceconstruction.com/">http://www.mounceconstruction.com/</a>	Lease/contract ABC Air Curtain Destructor- Incinerators, a trailer-mounted portable air curtain destructor-incinerator.
<b>Western Destructor Burn</b> Box 1199 Salmon Arm, BC 604-240-1111 (no web site)	Manufactures air curtain trench burners for sale/rental. System includes trench construction and over-fire air curtain with under-fire air if required.

### EQUIPMENT HIRE AND TRANSPORTATION RESOURCES

<b>BC Road Builders &amp; Heavy Construction Association</b> Suite 307 – 8678 Greenall Avenue Burnaby, BC V5J 3M6 604-536-0220 <a href="http://www.roadbuilders.bc.ca">www.roadbuilders.bc.ca</a>	The association includes construction, service and supply and maintenance sectors and provides a unified voice for the industry. It represents privatized highway maintenance contractors, construction contractors, underground/utility contractors, paving contractors and various service & supply companies.
<b>BC Trucking Association</b> #100-20111 93A Avenue Langley, BC V1M 4A9 604-888-5319 <a href="http://www.bctrucking.com">www.bctrucking.com</a>	Provides information for shippers and assistance with locating trucking resources and transportation services.



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<p><b>Prince George Construction Association</b> 3851-18 Avenue Prince George, BC V2N 1B1 250-563-1744 <a href="http://www.pgca.bc.ca">www.pgca.bc.ca</a></p>	<p>Promotes standard practices and high standards in the construction industry. Can provide assistance with locating heavy equipment.</p>
<p><b>BC Ministry of Transportation and Infrastructure</b> Northern Region Office 213 - 1011 4<sup>th</sup> Avenue Prince George BC V2L 3H9 250-565-6478 <a href="http://www.th.gov.bc.ca/contacts-regions.htm#Northern">www.th.gov.bc.ca/contacts-regions.htm#Northern</a></p>	<p>MOT District Offices maintain extensive current listings of local and regional equipment-hire contractors, trucking services and other critical resources.</p> <p><b>Bulkley-Stikine Area</b> Bag 5000, 3726 Alfred Avenue Smithers, BC V0J 2N0 250-847-7403</p> <p><b>Lakes Area</b> 161 – Hwy 16 Box 3500 Burns Lake, BC V0J 1E0 250-692-7161</p> <p><b>Dease Lake Area</b> Box 148 Dease Lake, BC V0C 1L0 250-771- 4511</p>

### RENDERING PLANTS AND DEAD STOCK OPERATORS

<p><b>West Coast Reduction Ltd. (WCR)</b> 105 North Commercial Drive Vancouver, BC V5L 4V7 604-255-9301 <a href="http://www.wcrl.com/index.htm">http://www.wcrl.com/index.htm</a></p>	<p>Only rendering plant in BC. Processes small animals (sheep, hogs) in Vancouver and ships cattle carcasses to Calgary for disposal. Not currently permitted by CFIA to process infected carcasses.</p>
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### HAZARDOUS WASTE TRANSPORT AND DISPOSAL

<p><b>BC Environmental Industry Association (BCEIA)</b> 604-683-2751 <a href="http://www.hazwastebc.com/index.html">http://www.hazwastebc.com/index.html</a></p>	<p>A current list of hazardous waste transporters in BC is available from BCEIA. <a href="http://www.hazwastebc.com/Hazardous_Waste_Transporters.html">http://www.hazwastebc.com/Hazardous_Waste_Transporters.html</a></p>
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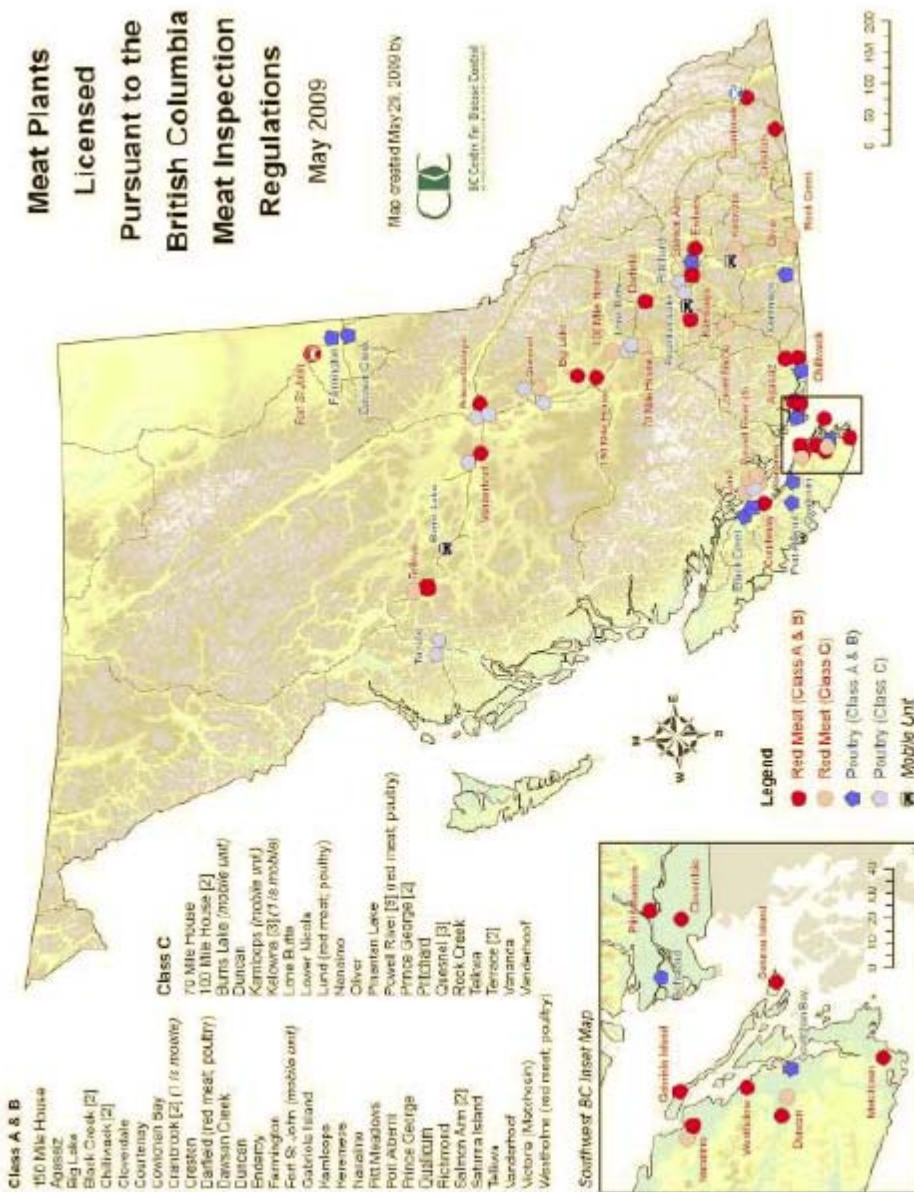
### LIVESTOCK HEALTH POLICY AND SERVICES

<p><b>BC Ministry of Agriculture and Lands Animal Health Centre</b> 1767 Angus Campbell Road Abbotsford, BC V3G 2M3 1-800-661-9903 604-556-3003 <a href="http://www.al.gov.bc.ca/ahc/index.htm">http://www.al.gov.bc.ca/ahc/index.htm</a></p>	<p>The Animal Health Centre (AHC) is a full-service veterinary diagnostic laboratory, located in the Abbotsford Agriculture Centre in Abbotsford, British Columbia and funded by the Ministry of Agriculture and Lands.</p>
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# FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

## Appendix 4 to Section 7 BC Slaughterhouses and Meat Plants





**PROVINCIALY LICENSED MEAT PLANTS  
BC NORTHERN  
As at May 26, 2009**

<p><b>South Peace Colony Poultry Farm</b> (Poultry) Box 475 Dawson Creek, BC V1G 4H3 250-782-8164</p>	<p><b>Rodear Meats Ltd.</b> (Red Meat) 3736 Beaver Valley Road, Box 15 Big Lake, BC V0L 1G0 250-243-2340</p>
<p><b>Gate to Plate Food Services Ltd.</b> (Red Meat) 9325-100<sup>th</sup> Street Fort St. John, BC V1J 4N4 250-785-7738</p>	<p><b>Rainer Custom Cutting</b> (Red meat) 7493 Darlington Creek Road General Delivery, Darfield, BC V0E 1R0 250-672-9407</p>
<p><b>Peace Country Poultry</b> (Poultry) PO Box 194 Farmington, BC V0C 1N0 250-789-3018</p>	<p><b>Spokin Lake Meats</b> (Red meat) 4030 Spokin Lake Road, Box 172 150 Mile House, BC V0K 2G0 250-296-4355</p>
<p><b>Kawano Farms</b> (Red meat) 11030 Old Cariboo Hwy Prince George, BC V2N 5T9 250-963-7127</p>	<p><b>Northwest Premium Meat Co-op.</b> (Red Meat) 5986 Donaldson Road Telkwa, BC V0J 2X0 250-846-5092</p>
<p><b>Country Locker</b> (Red Meat) 6900 Teichrob Road, Box 11 Vanderhoof, BC V0J 3A0 604-567-4774</p>	<p><b>Farmcrest Foods Ltd.</b> (Poultry) 1880-30th Street SW Salmon Arm, BC V1E 4M1 250-832-0036</p>
<p><b>Cariboo Central Interior Poultry Producers Association</b> 339A Reid Street Quesnel, BC V2J 2M5 250-992-1511</p>	<p><b>Chilcotin Abattoir Ltd.</b> (Red Meat) Box 1 Redstone, BC V0L 1S0 250-394-4410</p>
<p><b>Lawrence Meat Packing Co. Ltd.</b> (Red Meat) 1013 – 102nd Avenue Dawson Creek, BC V1G 2B9 250-782-5111</p>	

Source: BC Centre for Disease Control. Complete listing at:  
<http://www.bccdc.ca/NR/rdonlyres/161B504B-8E5D-43BA-B111-684DA64996C6/0/MeatPlantEstablishmentWEBVERSION.pdf>



## 8. Finance and Administration

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### 8.1 General

Provincial guidelines and regulations for financial management in an emergency are contained in the [Emergency Program Act](#) and its [Compensation and Disaster Financial Assistance Regulation](#).

It is important to note that the financial programs which apply to compensation for animal mortality in an emergency are separated between provincial programs which apply during a non-reportable disease/FAD emergency, and federal programs which apply when a reportable disease/FAD is present.

In an animal disease event, claims are normally made directly by producers to the applicable federal agency, either through the *JEOC Compensation Unit* or under other arrangements promulgated by federal authorities.

When the BC FADES Plan is implemented, the CFIA Regional Director is granted official access to funds to support emergency response. This authority is outlined in the FADES Plan at Section 2.8:

[http://www.iafbc.ca/funding\\_available/programs/livestock/documents/LWTI-34\\_FADESPlan2009.pdf](http://www.iafbc.ca/funding_available/programs/livestock/documents/LWTI-34_FADESPlan2009.pdf)

The [Emergency Program Act, at Section 17 to Part 4](#), permits recovery from producers of costs associated with carcass disposal when such recovery is warranted.

### 8.2 Provincial Programs

Producers who suffer losses through farmed animal mortalities from causes other than a foreign animal disease may be eligible for *Disaster Financial Assistance* (DFA) arranged through PEP. This program is for uninsurable losses.

The [Compensation and Disaster Financial Assistance Regulation](#) provides, with limitations, at Schedule 3 for the repair to or replacement of eligible farm materials including livestock and poultry essential to farm operations for which insurance was not available, casual labour, commercial services and rentals and use of equipment.

PEP is permitted under the *C & DFA Regulation* to assist a local authority with 100% of eligible response costs. For example, a local authority may receive financial assistance for paid overtime costs of local authority staff while responding to an emergency with the submission of approved time sheets.



The PEP financial guidelines applicable to farmers and ranchers are contained in *Disaster Financial Assistance Guidelines for Private Sector*. The guidelines may be reviewed at:

[http://www.pep.gov.bc.ca/dfa\\_claims/PrivateSectorGuidelines.pdf](http://www.pep.gov.bc.ca/dfa_claims/PrivateSectorGuidelines.pdf)

Financial assistance from PEP may also be provided to local authorities for specified types of response and recovery costs. The PEP financial guidelines for local governments are contained in *Financial Assistance for Emergency Response and Recovery Costs – A Guide for BC Local Authorities and First Nations, September 2005 (Revised January 2008)*. This document may be reviewed at: [http://www.pep.gov.bc.ca/dfa\\_claims/Financial\\_Assistance\\_Guide.pdf](http://www.pep.gov.bc.ca/dfa_claims/Financial_Assistance_Guide.pdf)

**Local Authority Response Costs** – Response means all efforts to save lives, reduce suffering, protect property, and other immediate objectives to reduce threats from emergencies. Response may begin before impact if early information warns of an imminent event, and may continue as long as the event is in progress or the imminent threat exists.

**Local Authority Recovery Costs** – Recovery involves efforts to return local authority infrastructure to pre-disaster condition. Local authority recovery applies to the repair or replacement of structures, equipment and materials that are essential to the local authority's functions and operations.

The nature of the response expenditure is an important factor to consider. Response expenses and staff time over and above normal day-to-day costs are eligible for assistance. Also, eligibility pertains to response costs for efforts needed to preserve public safety related to a specific event.

### 8.3 Federal Programs

When the BC FADES Plan is implemented, the CFIA Regional Director is granted official access to funds to support emergency response. Local governments track their individual response costs and submit any claims directly to the CFIA for assessment. The CFIA will reimburse provincial government and local government costs where they act as CFIA agents, perform activities on behalf of the CFIA and have received prior CFIA approval for specific cost items. Arrangements for this process will be through the Finance and Administration Section of the JEOC.

Owners of animals ordered destroyed during a reportable disease/ FAD emergency may be compensated directly by the federal government under the federal *Health of Animals Act and Regulations*. Compensation under these regulations will normally be arranged through the JEOC, or may be arranged directly between producers and the applicable federal agency when no



JEOC has been established.

The *Compensation for Destroyed Animals Regulations* establish the maximum amount of compensation payable for an animal that is required to be destroyed in an animal disease emergency. The *Regulations* are available at:  
[http://laws.justice.gc.ca/en/showdoc/cr/sor-2000-233/bo-ga:s\\_2/en#anchorbo-ga:s\\_2](http://laws.justice.gc.ca/en/showdoc/cr/sor-2000-233/bo-ga:s_2/en#anchorbo-ga:s_2)

Compensation awarded to owners is determined by an assessment of the market value of an animal and takes into consideration factors such as genetic background, age and production records. The assessment is made by a team of experts that includes the CFIA veterinary inspector and two evaluators – one chosen by the owner and the other by the CFIA.

The compensation awarded is subject to maximum levels set out in the *Regulations*. The owner is awarded market value less the value of the carcass received if salvage is possible, but if the animal's market value is equal to or exceeds the maximum allowed, the owner is awarded the maximum compensation amount.

#### 8.4 First Nations

First Nations in BC qualify for federal assistance for emergency response, including eligible costs for animal services. The provincial and federal governments have agreed to work together in providing financial assistance to First Nations.

First Nations are required to prepare and submit their own claims for response costs to PEP, even if they participate with a local authority or with the Ministry in response.

First Nations are subject to the same eligibility and documentation requirements for disaster financial assistance in BC that apply to local authorities (see sub-section 8.2 above).

#### 8.5 Application Procedures

Instructions regarding compensation and application procedures will be issued during an animal health emergency by PEP and/or CFIA as applicable on an event-specific basis.

The following EOC forms will be required for obtaining expenditure authorization and recording expenditures:

- a) EOC 530 – Expenditure Authorization Form;
- b) EOC 532 – EOC Daily Expenditures;
- c) EOC 534 – Expenditures - Event Totals; and
- d) EOC 514 – Request for Resources or Equipment.



The applicable form templates may be downloaded from:  
<http://www.pep.bc.ca/community/EOCforms.html>.

For access to funds under the FADES Plan, local governments must track their individual response costs and submit any claims directly to the CFIA for assessment. The CFIA will only reimburse provincial government and local government costs where they act as CFIA agents, perform activities on behalf of the CFIA, and have received prior CFIA approval for specific cost items.

**8.6 Compensation Q&A**

Some common *Questions and Answers* about compensation are provided at Appendix 1.

**8.7 Requirement for Record Keeping**

The key to receiving prompt payment of submitted response costs, disaster financial assistance or compensation claims is good record keeping. Claims must be properly documented with supporting receipts or other written justification.

The EOC for carcass disposal operations must receive and retain all mortality documentation and ensure that the following minimum items are documented:

- a) names and contact numbers of person reporting animal mortality;
- b) dates of disposal;
- c) species of animals, numbers and locations of origin;
- d) selected method of disposal and locations;
- e) follow-up actions required to monitor and remediate disposal site; and
- f) names and contact numbers of experts utilized in disposal operations.

A draft EOC form for recording this information is provided at Appendix 2.



**Appendix 1 to Section 8  
Compensation Questions and Answers**

**Q1. All of my animals were destroyed during the recent FAD emergency. How much can I expect to be compensated?**

A1. Each animal is evaluated and its market value is determined; however, the compensation awarded is subject to maximum levels set out in the *Compensation for Destroyed Animals Regulations*. Permitted compensation amounts may be found in the *Regulations*. Examples of maximum compensation amounts (in Canadian dollars) for common farm stock are:

Cattle - registered	8,000
Cattle – non registered	2,500
Horse – ordered destroyed due to Equine Infectious Anemia	2,000
Horse – all others	8,000
Sheep - registered	1,200
Sheep – non registered	300
Swine – registered	5,000
Swine – non registered	2,000
Chicken – egg production	18
Chicken – meat production	24
Turkey – meat production	35
Alpaca	8,000
Llama	3,000
Ostrich	3,000
Emu	500

**Note 1:** Amounts are as of February 23, 2010. Latest amounts can be obtained at <http://laws.justice.gc.ca/en/showdoc/cr/SOR-2000-233//en?page1>

**Q2. In addition to compensation for each animal destroyed during an FAD emergency, are there other costs for which I may be reimbursed?**

A2. Yes – under the *Compensation for Destroyed Animals Regulations*, owners of animals ordered destroyed may also be awarded compensation for disposal costs such as transportation, slaughter, labour, and equipment. Claims are made directly to CFIA.

**Q3. I believe that I have an entitlement to Disaster Financial Assistance to compensate me for animals lost in the recent wildfire emergency. How do I apply for DFA?**

A3. PEP will coordinate the processing of private sector claims and provide local advice on the application process. It can be anticipated that PEP will provide this advice to potential claimants, which may be done through newspaper notices and/or arranging public



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

meetings in affected communities. PEP will coordinate such activities with the Regional District.

**Q4. The horses and goats on my hobby farm were drowned in the recent floods and I can't afford to replace them. Am I entitled to Disaster Financial Assistance?**

A4. In such events Disaster Financial Assistance is limited to farmers and ranchers whose livelihood is based on their farming and ranching activity.



Appendix 2 to Section 8  
Carcass Disposal Report Form

CARCASS DISPOSAL REPORT

EOC ---

<b>Event:</b>	<b>EOC Function:</b>	<b>Name:</b>
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RECORD DETAILS OF CARCASS DISPOSAL BELOW

<b>Reported by:</b>	
<b>Contact information of person reporting:</b>	
<b>Date(s) of disposal:</b>	
<b>Species and number of animals:</b>	
<b>Location of origin of animals:</b>	
<b>Method of disposal:</b>	
<b>Location of disposal:</b>	
<b>Follow-up required:</b> (Obtain advice from MAL/MOE)	
<b>Authority for disposal:</b> (Provide names and contact numbers of any experts utilized in this disposal event).	

Page ____ of ____
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## 9. Recovery

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### 9.1 General

Disposal operations will normally be conducted within a larger emergency scenario. There will therefore be no recovery phase or process linked directly to disposal operations. Rather, it will be related to the foreign animal disease or other event within which the animal mortality occurred. The recovery phase may include activities to support restocking, re-establishing markets and rebuilding viable industry activities.

### 9.2 Recovery Objectives

Recovery objectives may include damage assessment, restoration and reconstruction, economic impact studies and financial assistance.

### 9.3 Recovery Organization

A small recovery team may be required to guide the recovery process. The composition of the team will depend on the scale and extent of the emergency, and the scale of carcass disposal. Local authorities should work closely with any provincial recovery team that may be instituted.

Following an animal disease event, joint federal/provincial recovery efforts embrace the needs of the local and regional animal industry and local governments to return operations to normal as quickly as possible. The JEOC may not lead recovery, but may assist in initiating the process, working with a local authority, industry representatives and others in a *Recovery Task Force*. Some possible recovery activities for JEOC involvement include:

- a) facilitate individual recovery efforts upon request and through the coordination of a local authority recovery organization;
- b) identify funds that may be available to assist disaster victims;
- c) advise industry on finding resources needed to effect their own recovery;
- d) participate in a *Community Recovery Task Force*; and
- e) help build capacity within the affected industry to deal with emergencies.

Environmental issues related to disposal will also be key to a successful recovery. The MOE will coordinate the monitoring of disposal sites as required over a specified period to ensure that appropriate environmental safeguards are in place and there is no degradation of the sites which could have long-term environmental impacts.



**9.4 After-Action Report**

On the completion of response activities an *After-Action Report* (AAR) should be prepared. The primary purpose of the AAR is to document the lessons learned from the experience.

Core questions to be addressed in the AAR include:

- a) What went right?
- b) What went wrong? and
- c) How can we improve?

The intent of this step is not to find fault, but to uncover opportunities for improving plans, procedures, equipment, and personnel training for the district's emergency program.

The RDBN Emergency Program Coordinator is responsible for ensuring that an AAR is completed and that all documented records are complete and available for internal review.



## **SECTION 10 – ANNEXES**

- A. Animal Diseases**
- B. Disposal Methodology Options**
- C. Training Requirements**



## Annex A Animal Diseases

### World Organization for Animal Health (OIE) - List A

The following diseases are currently listed by the OIE as transmissible diseases that have the potential for very serious socio-economic or public health consequences, and are of major importance in the international trade of animals and animal products:

- African Horse Sickness**
- African Swine Fever**
- Bluetongue**
- Classical Swine Fever**
- Contagious Bovine Pleuropneumonia**
- Foot and Mouth Disease**
- Highly Pathogenic Avian Influenza**
- Lumpy Skin Disease**
- Newcastle Disease**
- Peste des Petits Ruminants**
- Rift Valley Fever**
- Rinderpest**
- Sheep Pox and Goat Pox**
- Swine Vesicular Disease**
- Vesicular Stomatitis**

### CFIA Disease Strategies

Currently, the CFIA Foreign Animal Disease Manual of Procedures contains strategies for:

- African Swine Fever**
- Anaplasmosis**
- Avian Influenza**
- Bluetongue**
- Bovine Spongiform Encephalopathy**
- Classical Swine Fever (Hog Cholera)**
- Foot and Mouth Disease**
- Newcastle Disease**
- Pseudorabies**
- Swine Vesicular Disease**
- Vesicular Stomatitis**



### Diseases with High Potential for Mass Mortality

Following is a list of diseases with high mass mortality potential. The diseases identified as zoonotic potentially present a risk to human health:

Disease	Likelihood	Risk to Animal Health	Zoonotic Status (Risk to Human Health) <sup>(1)</sup>	Species at Risk
	Rare Unlikely Possible Likely Certain	Very Low Low Medium High Very High	Yes/No If zoonotic: (Insignificant) (Low) (Moderate) (High)	
Anthrax ( <i>Bacillus anthracis</i> )	Possible	High	Yes (Moderate)	Multiple
Avian Infectious Laryngotracheitis (Herpesvirus)	Certain	Very High	No	Avian
Avian Influenza – highly pathogenic (Orthomyxovirus)	Likely	Very High	Yes (Low to High, strain dependent)	Avian
Bovine babesiosis ( <i>Babesia bovis</i> )	Possible	Medium	Yes (Moderate)	Cattle
Classical Swine Fever or Hog Cholera ( <i>Pestivirus</i> )	Possible	High	No	Swine
Epizootic haemorrhagic disease (Orbivirus)	Likely	High	No	Multiple
Foot and Mouth Disease ( <i>Picornavirus</i> )	Possible	High	No	Multiple
Fowl Cholera ( <i>Pasteurella multocida</i> )	Certain	Very High	Yes (Low)	Avian
Newcastle Disease – Velogenic (exotic) (Avian paramyxovirus)	Possible	Very High	No	Poultry
Viral haemorrhagic disease of rabbits (Calicivirus)	Possible	High	No	Lagomorph (rabbit)
West Nile Fever (West Nile virus)	Possible	Medium	Yes (Insignificant) <sup>(2)</sup>	Equine

**Note 1:** The risk to human health is relative (the risk posed by anthrax is higher than that for Newcastle, etc, however in an absolute sense even the risk of anthrax is low).

**Note 2:** Although West Nile Virus is zoonotic, infected horses present no risk to human health.



**Annex B  
Disposal Methodology Options**

Methodology	Description
<b>Market</b>	<p>The market option involves the commercial sale of non-infected animals, usually resulting from pre-emptive slaughter for the purposes of containing the spread of disease. Marketing should be undertaken whenever possible.</p>
<b>Rendering</b>	<p>Rendering of animal carcasses involves conversion of the carcasses into three end products – carcass meal, melted fat or tallow, and water – using mechanical processes (grinding, mixing, pressing, decanting and separating), thermal processes (cooking, evaporating, and drying), and sometimes chemical processes (e.g., solvent extraction).</p> <p>The main carcass rendering processes include size reduction followed by cooking and separation of fat, water, and protein materials using techniques such as screening, pressing, sequential centrifugation, solvent extraction and drying. Resulting carcass meal can sometimes be used as an animal feed ingredient. If prohibited for animal feed use, or if produced from keratin materials of carcasses such as hooves and horns, the product will be classified as inedible and can be used as a fertilizer. Tallow can be used in producing livestock feed or the manufacture of soaps.</p> <p>A satisfactory rendering process would involve grinding the raw product, solvent extraction of lipids at about 100 °C for one hour and high temperature treatment of both carcass meal and tallow for at least a further 40 minutes. The end product of rendering must pass microbiological tests before release.</p> <p>Rendering is a useful alternative for carcass disposal including infected animals where the service is available (the WCR plant in BC is not approved for rendering of infected carcasses). However, rendering plants have minimal surge capacity and may not be able to accept large numbers of carcasses in an emergency.</p>
<b>Composting</b>	<p>Composting is the controlled biological decomposition and conversion of solid organic material into a humus-like substance called compost that can safely be used as a soil amendment. The process is aerobic, meaning it requires the presence of oxygen. Natural microorganisms such as bacteria and fungi break down the complex organic compounds into simpler compounds.</p> <p>Composting methods include bin, static windrow, and in-vessel (Ag Bag). Bin composting is commonly used on-farm for disposal of routine animal mortality. It involves layering of carcass material with a bulking agent (wood chips, bedding litter) within containment walls with periodic turning (aeration). Windrow composting also utilizes layering of carcasses and bulking agent in long windrows</p>



4.5 m wide, 2.1m high with 2.4m windrow spacing to allow machine access for turning. A 90m windrow would hold 55-60 cow carcasses. In-vessel composting utilizes plastic pods (Ag Bags) 3m in diameter and 66 m long. Carcasses are simultaneously ground and mixed with wood waste and loaded into the pods which are equipped with aeration pipes and ventilation ports. Each pod can hold up to 50 cow carcasses (~ 35 tonnes) and requires 325m<sup>2</sup> per pod.

Composting is cost-effective, environmentally sound and bio-secure provided that the compost is managed correctly (e.g., high temperatures are maintained and leachate is controlled effectively). Most pathogens are destroyed during the composting process. In-barn composting is the favoured option for poultry because it limits odour, enhances bio-security and is away from view. If this is not possible, the entire process can be handled outdoors.

Large animals can be successfully composted if the process is properly established and maintained. Composting also has the advantage of keeping infected material on site.

Site selection is of key importance for composting operations. Considerations include:

- flood prone areas, steep slopes and bedrock should be avoided;
- sites should be at least 1m above the high water table and 30 m away from wells or watercourses used for domestic purposes;
- sites should be on high ground with good drainage where pooling of water does not occur;
- a preferred base is a concrete pad, asphalt or packed gravel, however, a field with vegetative cover can be used if it will support equipment and leachate can be effectively contained;
- runoff and/or leachate must be contained to protect surface and ground water; and
- sites should be shielded from public view and secure from predators.

Partial composting, or bio-heat treatment, may also be used in some circumstances, particularly with poultry carcasses. Virus inactivation is achieved, but visually the end-product has not matured to the same level of biological decomposition as true compost. Ideally the bio-heat treatment would be performed in the barn. After disease inactivation the material can be brought out for safe composting in the open.



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

<b>Incineration</b>	<p>High temperature incineration is a method of thermal destruction of both the carcass and pathogens by converting volatile gases, vapours and particulate matter into carbon dioxide, water and ash. Properly designed and operated, biological incinerators produce a stack gas that is largely free of odours and particulate matter. Fixed facility incinerators require industrial sites and should be at least one hectare per facility.</p> <p>Biological incinerators provide a very efficient carcass disposal system, achieving safe and complete disposal with the absence of virtually any pollution. However, their cost and lack of portability means they are unlikely to be readily available or easily accessible in many situations. Incinerators are usually only suited to disposal of small amounts of material.</p>
<b>Burning</b>	<p>Open burning of animal carcasses creates smoke that is high in particulate matter and produces offensive odours. Accordingly, it is normally suitable for only a small number of animals and is prohibited for cattle due to SRM fly-ash concerns unless it is performed on the farm where the cattle died. It may be conducted in above-ground pyres or in trenches, and requires the use of accelerants such as diesel fuel or auxiliary fuel such as wood and straw to achieve the combustion temperatures necessary for the complete destruction of animal carcasses. Due to the risk of contamination from fuels, an impermeable sil (clay) is preferred and burn sites should be removed from the public by at least three kilometers.</p> <p>Air curtain burning is a technique for burning material in a pit aided by fan-forced air. The equipment consists of a large capacity fan and ducting to deliver the air, which may be preheated, down into the long side of a trench. The angle of the airflow results in a curtain of air acting as a top for the incinerator and provides oxygen that produces high burn temperatures. Sufficient hot air recirculates within the pit, achieving complete combustion. Additional fuel is required to initially establish combustion, but once operating the continuing fuel requirement is reduced. The use of misters can reduce the air emission concerns normally associated with open air-curtain technology.</p> <p>Air curtain burning sites require 2.5 hectares per installation and should be located a minimum of 100m from neighbouring residences and 500m from schools, hospitals and continuing care facilities. Air curtain burners are suitable for continuous operation, albeit on a relatively small scale and have the advantage of being transportable. Using an air curtain burner can significantly enhance the efficiency of open burning. Burning results in the destruction of most pathogens, reduces the volume of solid wastes and minimizes the impact on water quality.</p> <p>Residues left over from burning must be buried, composted or transported to a landfill. However, open burning of significant</p>



## FARMED ANIMAL MASS CARCASS DISPOSAL EMERGENCY PLAN

	<p>volumes of carcasses has a negative psychological effect on the community and when used extensively during the Foot and Mouth disease epidemic in England in 2001, it had a significant impact on tourism and the economy.</p>
<b>Landfill</b>	<p>Depositing dead animals in a local landfill has been commonly used for disposal of a small numbers of large animal carcasses or a larger number of small animal carcasses.</p> <p>Only landfills that satisfy requirements with respect to flooding and aquifers, engineered containment, leachate management and gas management regimes should be considered for mass carcass disposal.</p> <p>Carcasses disposed in a landfill undergo chemical, bacteriological, and physical changes. Depending on the material and site conditions, decomposition in a landfill can proceed very slowly over a long period of time, in widely varying temperatures that are inadequate for the inactivation of heat resistant organisms and spore formers. There is also a potential for groundwater and surface water contamination from the release of landfill leachate, and the off-site migration of carbon dioxide, and methane gases. Small amounts of poisonous and noxious gases including hydrogen sulfide may also be emitted from landfills.</p>
<b>Burial</b>	<p>Mass livestock carcass burial requirements include the need for at least four meters of soil above the water table or bedrock, and separation distances of 122 meters from any well and 50 meters from a dugout, pond, stream, river or the property boundary. Also, flood prone areas and unconfined aquifers are excluded.</p> <p>Burial confines the carcasses but can produce large volumes of leachate. Also, the residue within a burial site will persist for many years and ultimate elimination of the carcass material represents a long-term process. Burial must therefore be used cautiously for mass disposal.</p> <p>Maximum loading rate for non-emergency on-site carcass burial is 700kg per hectare per year. For mass burial in off-site locations, the loading rate will be determined by environmental considerations and must be determined in conjunction with MAL, MOE and MOHS.</p> <p>Experience in past emergency events suggests a loading rate not exceeding approximately 15 cattle, 90 swine, 150 sheep or 800 poultry carcasses per hectare per year, in environmentally acceptable sites, for mass carcass disposal in a major emergency.</p> <p>Environmental risks associated with burial include:</p>



- holding (burial) sites that result in surface and/or soil pollution and/or air pollution;
- flies or rodent attraction that results in possible disease transfer to people, livestock or wildlife; and
- attraction of predators to the site.

Important considerations for burial site selection include:

- *Access to the site:* for both equipment to dig the burial pit and for the delivery of livestock, carcasses or other materials to be buried;
- *Environmental:* distance to watercourses, bores and wells; height of water-table; proximity to buildings, especially houses; proximity to neighbours or public lands including roads; slope of the land and drainage to and from the pit; permeability of soil; sufficient space for temporary storage of overburden; and direction of prevailing wind (odour);
- *Construction considerations:* avoid rocky areas (slows digging and increases costs) but select soils with good stability capable of withstanding the weight of equipment used to construct and fill the pits. Surface runoff should be prevented from entering the pit by the construction of diversion banks if required. Similar banks should be constructed to prevent any liquids escaping from the burial site. Fencing may be necessary to exclude animals until the site is safe for use.
- *Back-filling:* it will likely be necessary to come back to the burial site several times during the course of carcass decomposition to back fill surface depression that result from the shrinking carcass mass. This is important for the purpose of avoiding water pooling right on top of the burial trench.

Gas production from decomposition within unopened carcasses may result in considerable expansion in the volume of the buried material to the extent that the surface of the closed pit may rise and carcasses may be expelled from the pit. It is recommended that large animal carcasses be opened by slashing the rumen of cattle or the caeca of horses to permit escape of gas. There appears to be little benefit in opening small animal carcasses.

Lime may be added to pits to prevent earthworms bringing contaminated material to the surface after pit closure. The carcasses must be completely covered with soil, and an unbroken layer of slaked lime [Ca (OH)<sub>2</sub>] should be added before filling is completed. Lime should not be placed directly on carcasses because it slows, and may prevent, decomposition.

**In cases of extreme emergency only**, centralized, off-farm mass burial of large carcass volumes may become necessary. In such cases the following site selection criteria have been proposed:



	<p><i>Physical Setbacks and site Constraints</i></p> <ul style="list-style-type: none"><li>- Surface water bodies – 100m.</li><li>- Domestic wells – 300m.</li><li>- Provincial highways – 400m.</li><li>- Provincial roads – 100m.</li><li>- Railroads – 100m.</li><li>- Residences – 300m.</li><li>- Property line – 50m.</li><li>- Unstable areas, steep banks, cliffs, ravines – 100m.</li><li>- Hotels, restaurants, food processing facilities, schools churches and public parks – 300m.</li><li>- National parks, cemeteries, flood prone areas, rock outcrops–excluded.</li><li>- Underground and overhead utilities – avoid.</li><li>- Difficult sites for excavation such as excessive trees, rocks, and other physical obstructions – avoid.</li><li>- Steeply sloping land (greater than 5%) – avoid.</li><li>- Crown land – preferred.</li><li>- Reasonable truck access – required.</li></ul> <p><i>Geotechnical / Geological Criteria and Aquifer Protection</i></p> <ul style="list-style-type: none"><li>- Minimum 5 m of low permeability soil below the base of the proposed trench with a hydraulic conductivity of <math>1 \times 10^{-6}</math> cm/sec or less which equates to a total depth below ground surface of 10 m for a 5 m deep burial pit.</li><li>- Minimum 5 m to location of the seasonally high water table below the base of the pit which equates to a total depth of 10 m below ground surface for a 5 m deep burial pit.</li><li>- Any locations above an existing aquifer are excluded based on consideration of consequence of contamination.</li><li>- Potential sites should be investigated by a professional geotechnical engineer to confirm suitability based on approved geotechnical and geological criteria.</li></ul>
<p><b>Other Potential Methodologies</b></p>	<p><u>Fermentation</u></p> <p>The process of lactic acid fermentation is simple and requires little equipment – the process needs only a tank and a grinder. Fermentation is an anaerobic process that can proceed in any sized non-corrosive container provided it is sealed and vented for carbon dioxide release. During this process, carcasses can be decontaminated and there is a possibility of recycling the final products into feedstuff. Fermentation products can be stored until they are transported to a disposal site.</p> <p>Carcasses are ground to fine particles, mixed with a fermentable carbohydrate source and culture inoculant, and then added to a fermentation container. Grinding aids in homogenizing the ingredients. For lactic acid fermentation, lactose, glucose, sucrose, whey, whey permeates, and molasses are all suitable carbohydrate sources. The carbohydrate source is fermented to lactic acid by <i>Lactobacillus acidophilus</i>. Under optimal conditions, including a fermentation temperature of</p>



about 35°C, the pH of fresh carcasses is reduced to less than 4.5 within two days. Fermentation with *L. acidophilus* destroys many bacteria. There may be some micro-organisms that can survive lactic acid fermentation, but these can be destroyed by heat treatment through rendering. Lactic acid fermentation creates a large volume of liquid waste product that is expensive to transport and for which it is difficult to find environmentally responsible uses.

### Gasification and Incineration

A thermal process in which organic carbonaceous materials are partially combusted under limited oxygen conditions in a primary chamber. In most systems, the syngas and char will be oxidized through a secondary chamber at a higher temperature supplying heat for pre-drying of the feedstock or auxiliary heat sinks, leaving 1-3% ash. Surplus syngas from the primary chamber can be cleaned and utilized as a fuel. Gasification and incineration are two of the very few methods actually capable of and approved for cattle SRM destruction.

### Alkaline Hydrolysis

Alkaline hydrolysis uses sodium hydroxide or potassium hydroxide to catalyze the hydrolysis of biological material (protein, nucleic acids, carbohydrates, lipids, etc.) into a sterile aqueous solution consisting of small peptides, amino acids, sugars and soaps. Heat is also applied to significantly accelerate the process. The only solid byproducts of alkaline hydrolysis are the mineral constituents of the bones and teeth of vertebrates. This undigested residue, which typically constitutes approximately two percent of the original weight and volume of carcass material, is sterile and easily crushed into a powder that may be used as a soil additive.

Alkaline hydrolysis is carried out in a tissue digester that consists of an insulated, steam-jacketed, stainless-steel pressure vessel with a lid that is manually or automatically clamped. The vessel contains a retainer basket for bone remnants and other materials.

The vessel is operated at up to 70 psig to achieve a processing temperature of 150°C. The process releases no emissions into the atmosphere and results in only minor odour production. The end product is a sterile, coffee coloured, alkaline solution with a soap-like odour. This method has potential for approval for cattle SRM destruction.

### Thermal Hydrolysis

Thermal hydrolysis refers to a process in which biological material is treated with high-temperature high pressure steam. It blasts steam at material in specialized vessels at high temperatures for 30 minutes or longer in order to destroy the cell walls. The process destroys a wide range of pathogens, has a low odour and is normally completed within six hours. This method also has potential for approval for cattle SRM destruction.



## Annex C Training Requirements

All personnel involved with carcass disposal operations need training, particularly with respect to safety, health and environmental requirements. This includes all RDBN emergency and support staff and, where possible, representatives from municipalities and the local farming industry.

To ensure the validity of operational plans and the effectiveness of training, carcass disposal exercise should be conducted periodically. The frequency will be determined by the likelihood of a carcass disposal emergency as reflected in the regional HRVAs. The exercises can take one of the following forms, working incrementally from the simplest (Level 1) to more complex methods.

Level	Type/Format	Structure
1	<b>Orientation</b> (Discussion-based)	The orientation exercise is conducted at an introductory level to familiarize participants with roles, plans, procedures or equipment. It is presented as an informal discussion in a group setting with little or no simulation. A variety of seminar formats can be used, including lecture, discussion, slide or video presentation or panel discussion.
2	<b>Tabletop</b> (Discussion-based)	A tabletop exercise is a facilitated analysis of an emergency situation in an informal, low-stress environment. It is designed to elicit constructive discussion as participants examine and resolve problems based on existing operational plans. Tabletop exercises lend themselves to broad discussion of policies and procedures, provide an opportunity for participating organizations and staffs to become acquainted with one another and are good preparation for more complex exercises.
3	<b>Drill</b> (Operations-based)	A drill is a coordinated, supervised exercise activity normally used to test a single specific operation or function. With a drill, there is no attempt to coordinate organizations or fully activate an EOC. Its role is to practice and perfect one clearly defined part of a response plan and to help prepare for more extensive exercises.
4	<b>Functional</b> (Operations-based)	A functional exercise is a simulated, interactive exercise that tests the capability of an organization to respond to a simulated event. This is a moderate-to-high stress activity which simulates an incident in the most realistic manner possible short of moving resources to a field site. A functional exercise is always a prerequisite to a full-scale exercise.
5	<b>Full-Scale</b> (Operations-based)	A full-scale exercise simulates a real event as closely as possible. It is an exercise designed to evaluate the operational capability of emergency management systems in a stressful environment that simulates actual response conditions and requires the mobilization and actual movement of emergency personnel, equipment, and resources.