



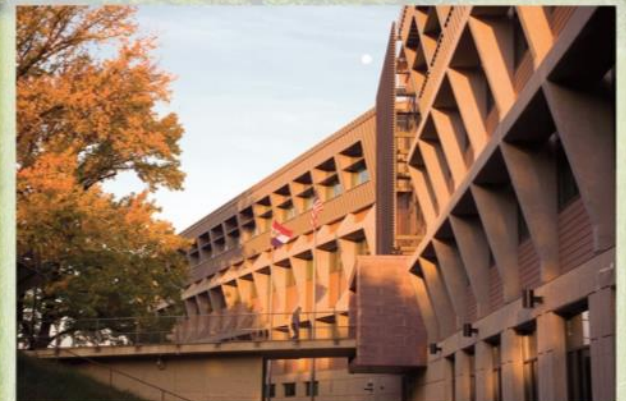
MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Mission

The mission of the Missouri Department of Natural Resources is to protect our air, land and water; preserve our unique natural and historic places; and provide recreational and learning opportunities for everyone.

Vision for Missouri

The Department of Natural Resources envisions a Missouri where people live and work in harmony with our natural and cultural resources, make decisions that result in a quality environment, and prosper today and in the future.





MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

DNR Role in Mass Mortality

Agency Roles

1. The **Missouri Department of Agriculture** is charged with the implementation of disposal of dead animals pursuant to Chapter 269, RSMo.
2. The **Missouri Department of Natural Resources (DNR)** is charged with the implementation and enforcement of the Missouri Clean Water Law, the Missouri Safe Drinking Water Act and Missouri Solid Waste Management laws pursuant to Chapters 640, 644 and 260, RSMo., and the federal Clean Water Act, 33 U.S.C. § 1251 et seq., and the federal Safe Drinking Water Act, 42 U.S.C. § 300f et seq, and implementing regulations.
3. The **University of Missouri Extension** in an advisory role will advise the state veterinarian of proper composting methods for the applicable situation.

Dead Animal Disposal Law

Mo. Dept. of Ag regulations apply only to dead animals within their definition of ‘animal’ stated in Missouri Statute, Chapter 269.

- “Animal’ refers to cattle, swine, sheep, horses, other domestic and exotic animals including birds, fish, and reptiles, and all other animals raised or produced for commercial purposes, and beginning July 1, 1995, the term shall include poultry and turkeys;”
- MDA’s regulations require the owner of the dead ‘animal’ to properly dispose of the body within 24 hours of discovery.
- Please note that MDA does not regulate dead animals outside of the definition above and would not include dead wild animals or dead animals from businesses other than slaughter houses.

Division of Environmental Quality (DEQ)

- DEQ Admin
- Air Pollution Control
- Environmental Services / Emergency Response
- Hazardous Waste
- Solid Waste
- Soil & Water Conservation
- Water Protection
 - Financial Assistance
 - Public Drinking Water
 - Water Pollution Control

Regional Offices

- Kansas City (KCRO)
- Northeast (NERO)
- St. Louis (SLRO)
- Southeast (SERO)
- Southwest (SWRO)

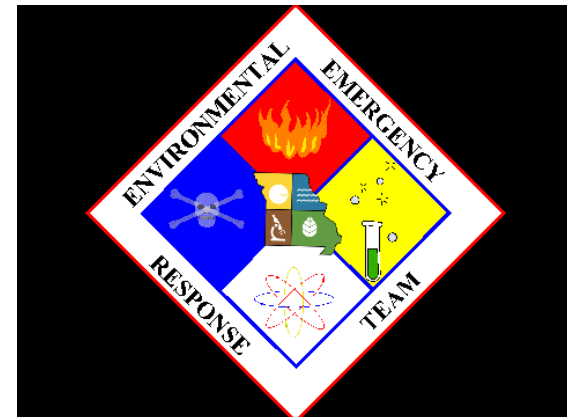
Division of Missouri Geological Survey

- Geological Survey Program

Environmental Emergency Response



If you are involved in or witness an environmental emergency, call the Missouri Department of Natural Resources at 573-634-2436.



DNR EMERGENCY RESPONSE ROLE IN MASS MORTALITY IN LIVESTOCK OR POULTRY

Immediately contact the following (in order) until you successfully reach someone – all contact information on EER Yellow Pages. (leave messages along the way):

- **EER Section Chief, ESP Director, DEQ Deputy Director, DEQ Director, or Department Director**
- **Immediately** contact the **Department's Agriculture Liaison (Kurt Boeckmann)**
- **Immediately** contact the **MO State Veterinarian (Dr. Linda Hickam)** - if the initial call did not originate from the MO Department of Agriculture.

DNR SOLID WASTE ROLE IN MASS MORTALITY IN LIVESTOCK OR POULTRY

The Solid Waste Management Law (SWML) regulates dead animals through the definition of “solid waste”,

“..... garbage, refuse and other discarded materials including, but not limited to, solid and semisolid waste materials resulting from industrial, commercial, agricultural, governmental and domestic activities...;”

- Disposal of livestock, domestic or wild animal carcasses and trimmings of a fur or hide business fall within this definition.
 - *However, since on-site disposal of dead domestic animals falls within MDA’s jurisdiction, the SWMP would defer these complaints to MDA.
- The other situations named, (offsite disposal) fall under the jurisdiction of the SWML.

Solid Waste Management Program

Sanitary Landfills

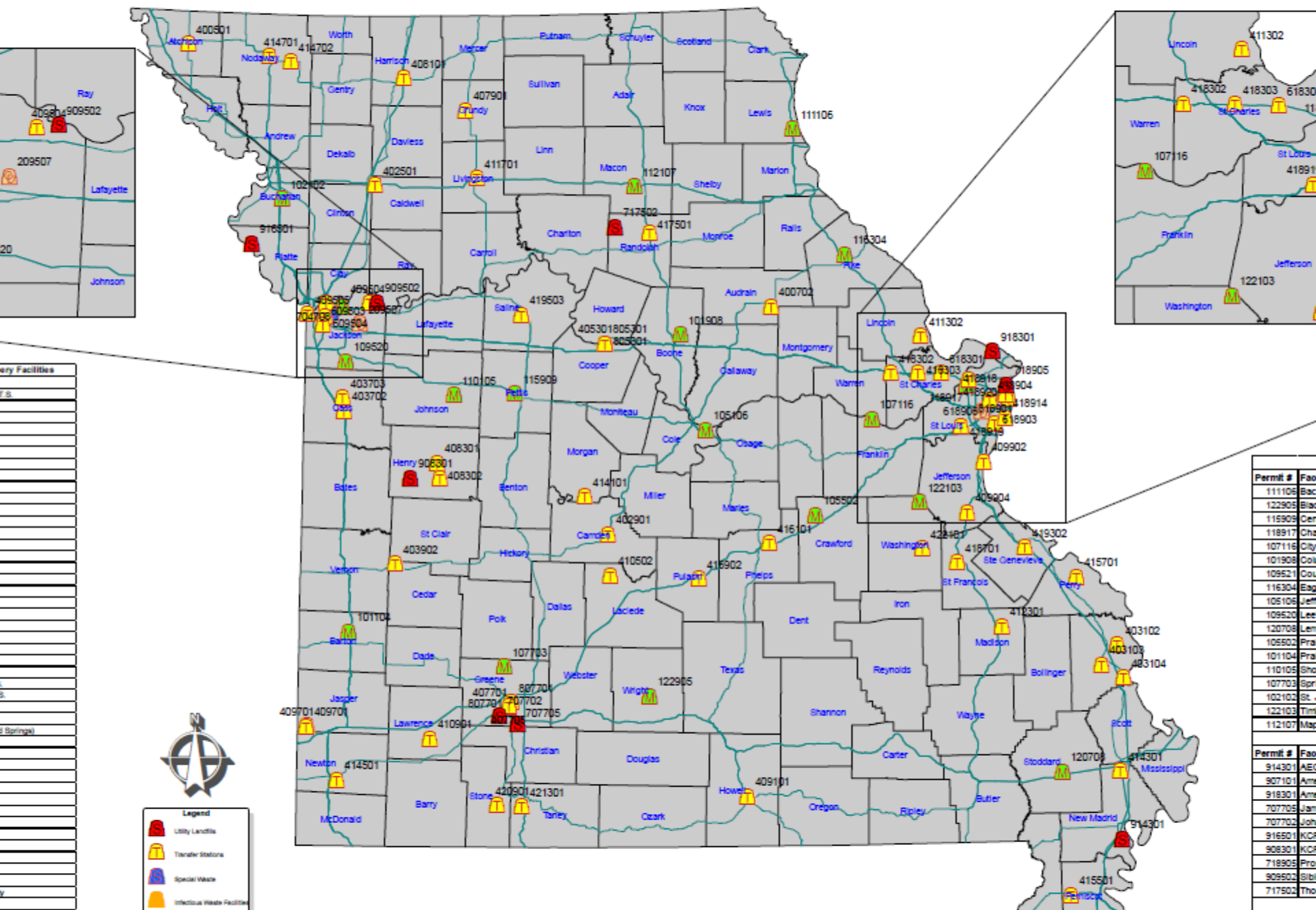
- 1.Backridge
- 2.Black Oak
- 3.Central Missouri Inc.
- 4.City of Columbia
- 5.City of Washington (Struckhoff)
- 6.Courtney Ridge
- 7.Eagle Ridge
- 8.Champ
- 9.Timber Ridge
- 10.Jefferson City
- 11.Lee's Summit
- 12.Lemons
- 13.Prairie Valley
- 14.Prairie View
- 15.Show-Me
- 16.Springfield
- 17.St. Joseph
- 18.Veolia ES Maple Hill



Other Types of Facilities

- Demolition Landfills
- Incinerators
- Infectious Waste
- Composting
- Special Waste Landfills
- Transfer Stations
- Material Recovery
- Utility Waste
- Proposed Facilities

Missouri Landfill and Processing Facility Locations



Division of Missouri Geological Survey



Geological Survey Program

Geologic Mapping to create detailed maps of Missouri's resources

Land Reclamation

Returning mined land to the best possible condition for use after mining is completed

Oil and Gas Wells

Permit database, forms, data and reports, and State Oil and Gas Council

Water, Heat Pump and Monitoring Wells

Ensures any new private well drilled in Missouri is constructed to minimum standards as set by state regulations

Water Resources Center

Water use and availability, resources monitoring and planning, drought assessment, etc.

DNR GEOLOGICAL SURVEY ROLE IN MASS MORTALITY IN LIVESTOCK OR POULTRY

Burial

- significant advantage of a mass burial site is the capacity to dispose of a tremendous number (volume) of carcasses in a short amount of time.
- burial eliminates the need for transportation of potentially infectious material, which in turn reduces the potential for disease spread or breaches in biosecurity.
- performed on-site (on-farm) and may therefore be less likely to attract significant attention to the public.

However.....

DNR GEOLOGICAL SURVEY ROLE IN MASS MORTALITY IN LIVESTOCK OR POULTRY

Burial

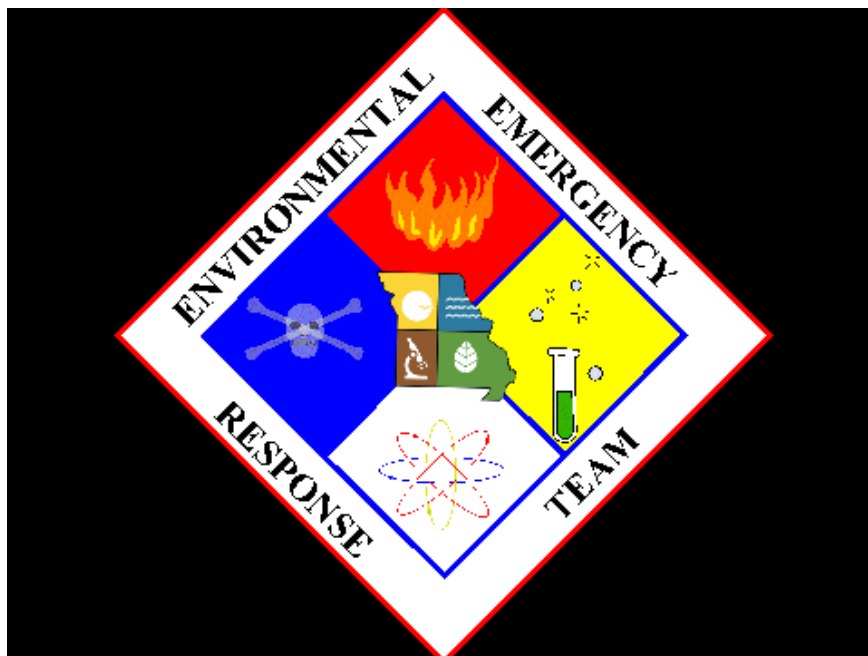
- Potential disadvantage is related to the site setting (i.e., depth to groundwater, soil type, groundwater usage, etc.) and the quantity of material.
- Catastrophic mortality burial may also require deed restrictions for the location of the burial site, adding a long-term liability component
- The disease in question may preclude burial as an option (i.e., bovine spongiform encephalopathy or anthrax). If burial involves transporting carcasses off-site; cost; vector control; and making containers leak-proof, or using containment bags can create additional disadvantages.

Other mortality Methods

- **Air-Curtain Incineration**
 - Permit required
 - expensive
- **Composting (Onsite)**
 - Recommended 1st choice
 - Storm water practices (if outside) may be required
- **Rendering**
 - Some facilities available?



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environmental
emergency, call
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Water Pollution Control MORTALTY MANAGEMENT FOR PERMITTED AND NON- PERMITTED FACILITIES

Routine vs. Mass Mortalities

Routine – Expected losses that occur on a regular basis as a result of normal operations.

Mass – An unexpected loss of large numbers of animals that result from events such as disease, acts of nature, or equipment failure.

Requirements for Permitted Operations

Regulations in 10 CSR 20-6.300 and 10 CSR 20-8.300

- Burial is not allowed as a method of disposal of routine mortalities for Class I operations.
- Must not be disposed of in wastewater system that is not designed to handle them.
- Handled in a manner as to not discharge.
- Management of mortalities must be addressed in the nutrient management plan (NMP).

Management Options for Routine Mortalities for Permitted Facilities

- Composting
- Rendering
- Incineration
- Landfilling

Management of Mass Mortalities for Permitted Facilities

- Contact State Veterinarian.
- If burying, also contact DNR. Missouri Geological Survey (MGS) must conduct site visit to determine if the site is suitable for burial. This may be done at any time.

Management of Mass Mortalities for Permitted Facilities (cont.)

- Composting, landfilling, incineration, and rendering do not require prior approval from the department.
- Composting must be done in a manner as to not discharge.
- Contact landfill/renderer to see if they will accept.

Mortality Management for Unpermitted Operations

Must not violate General Criteria Water Quality Standards.

- No unsightly or harmful bottom deposits.
- No scum or floating debris.
- No unsightly color or odor.
- No health hazard or toxicity to human, animal or aquatic life.

DNR Biosecurity

- Follow DNR biosecurity as well as the CAFOs biosecurity.
- 72 hours between inspections for staff, especially of same species.
- 72 hours between inspections for vehicles, unless washed between inspections.

DNR Biosecurity

- Have Personal Protective Equipment (PPE) and cleaning supplies available.
- Department staff will not enter production buildings unless authorized by the CAFO.

DNR Contacts

- Industrial Permit Unit – (573) 751-1300
- Regional Offices
 - Kansas City – (660) 251-0700
 - Macon (NE) – (660) 385-8000
 - Springfield (SW) – (417) 891-4300
 - St. Louis – (314) 416-2960
 - Poplar Bluff (SE) – (573)-840-9750

**For more information contact the
Industrial Permits Unit at 573-751-1300
or visit the departments CAFO webpage
at <http://dnr.mo.gov/env/wpp/cafo/>**