

# DISASTER PREPAREDNESS TOOLKIT

## for Environmental Health Specialists



September 2008



Missouri Department of Health and Senior Services  
Center for Emergency Response and Terrorism

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# Purpose

The Missouri Department of Health and Senior Services is providing this toolkit to be used in conjunction with the Department's **Disaster Field Manual for Environmental Health Specialists**.

The toolkit is designed to reinforce the last nine chapters of the Disaster Field Manual that consist of:

1. Water
2. Food
3. Liquid Waste/Sewage
4. Solid Waste Disposal
5. Housing/Mass Care Shelters
6. Vector Control
7. Hazardous Materials
8. Medical Waste
9. Responding to a Radiological Incident

In addition, a section has been included that has items that are more general in nature and may address one or more of the above subjects:

10. General Publications

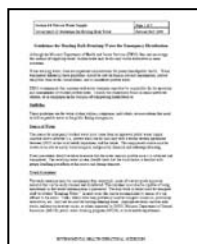
There are various information sheets included in the toolkit, from resources available from the Department of Health and Senior Services (DHSS) as well as other state departments whose regulatory responsibilities may compliment or supplant those of DHSS. An example would be that DHSS has jurisdiction over private well water sources, while the Department of Natural Resources regulates municipal and community water systems.

The toolkit CD contains electronic versions of most items that can be accessed by clicking on the electronic document title in this document. This toolkit is available on the DHSS website at <http://www.health.mo.gov/emergencies/ert/dispreptoolkit.php>. We encourage you to check the website frequently for updates to the toolkit. Items contained in the toolkit are in the public domain and can be reproduced freely.

If you have questions about the resources contained in this toolkit, please contact the Center for Emergency Response and Terrorism at 573-526-4768.

This toolkit is part of Missouri's pandemic influenza educational efforts.

# 1. Water



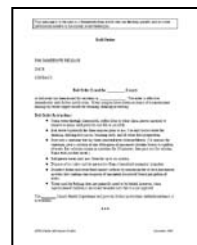
## **Guidelines for Hauling Bulk Drinking Water for Emergency Distribution**, 8½”x11”, 3 pages

Guidelines for water system utilities, companies, individuals, or associations that need to deliver potable water to the public during emergencies. The document is provided on the toolkit CD in pdf format. File name: BulkDrinkingWater. The document is part of the Environmental Health Operational Guidelines manual available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/atoz/ehog/index.php>.



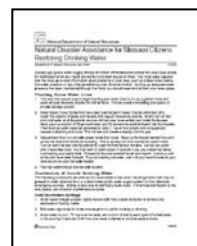
## **Guidelines for Food Establishments During a Boil Water Order** (fact sheet), 8½”x11”, 2 pages

This fact sheet provides guidance for food establishments to follow when a boil water order is issued. The fact sheet is provided on the toolkit CD in pdf format. File name: BoilWaterGuidelines. It is also available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/emergencies/ert/pdf/BoilWaterGuidelines.pdf>.



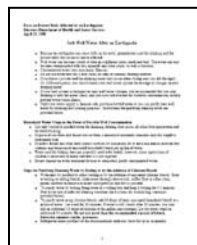
## **Boil Order** (template), 8½”x11”, 1 page

This is a template that can be used when issuing a boil order. The template is provided on the toolkit CD in Word and pdf format. File name: BoilOrderTemplate. The boil order is part of the Emergency Response Public Information Toolkit for Local Public Health Agencies available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/living/lpha/toolkit/chap4/index.php>.



## **Natural Disaster Assistance for Missouri Citizens: Restoring Drinking Water** (fact sheet), 8½”x11”, 3 pages

This fact sheet provides guidance for disinfecting both small quantities of water needed for drinking during a disaster situation, as well as the restoration of private household systems after a possible contamination event. The fact sheet is provided on the toolkit CD in pdf format. File name: RestoringDrinkingWater. The fact sheet is also available on the Missouri Department of Natural Resources’ website at <http://www.dnr.mo.gov/pubs/pub764.pdf>.



## **Safe Well Water After an Earthquake** (fact sheet), 8½”x11”, 2 pages

This fact sheet provides guidance on safe water usage after an earthquake. The fact sheet is provided on the toolkit CD in pdf format. File name: EarthquakeWellWater. It is also available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/emergencies/ert/pdf/EarthquakeWellWater.pdf>.

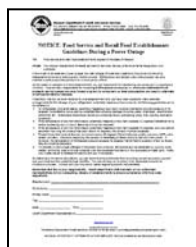
## 2. Food



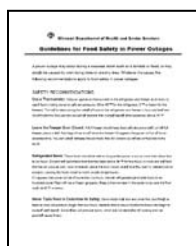
**Food Handling During a Crisis Situation** (fact sheet), 8½”x11”, 3 pages  
This fact sheet provides guidance regarding food safety hazards when providing food to displaced persons and volunteer workers. The fact sheet is provided on the toolkit CD in pdf format. File name: CrisisFoodHandling. It is also available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/emergencies/ert/pdf/CrisisFoodHandling.pdf>.



**Feeding Sites and Shelters** (fact sheet), 8½”x11”, 4 pages  
This fact sheet provides food handling safety recommendations when providing food to displaced persons and volunteer workers. The fact sheet is provided on the toolkit CD in pdf format. File name: FeedingSites. It is also available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/emergencies/ert/pdf/FeedingSites.pdf>.

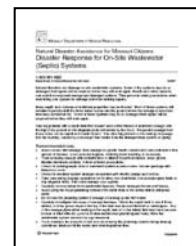


**NOTICE: Food Service and Retail Food Establishments Guidelines During a Power Outage** 8½”x11”, 1 page  
This sign off sheet outlines power outage procedures for food. The notice is provided on the toolkit CD in pdf format. File name: PowerOutageNotice. It is also available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/emergencies/ert/pdf/PowerOutageNotice.pdf>.



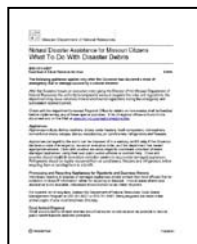
**Guidelines for Food Safety in Power Outages** (fact sheet), 8½”x11”, 3 pages  
This fact sheet provides food safety recommendations for a power outage and includes charts to help decide which foods are safe to eat when the power is restored. The fact sheet is provided on the toolkit CD in pdf format. File name: PowerOutagesFoodSafety. It is also available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/emergencies/ert/pdf/PowerOutagesFoodSafety.pdf>.

## 3. Liquid Waste/Sewage



**Natural Disaster Assistance for Missouri Citizens: Disaster Response for On-Site Wastewater (Septic) Systems** (fact sheet), 8½”x11”, 2 pages  
This fact sheet provides guidance for the use, as well as when not to use, on-site wastewater systems. The sheet provides information on a variety of adverse situations that can be encountered with these systems after disaster events. The fact sheet is provided on the toolkit CD in pdf format. File name: WastewaterSystems. The fact sheet is also available on the Missouri Department of Natural Resources’ website at <http://www.dnr.mo.gov/pubs/pub761.pdf>.

## 4. Solid Waste Disposal



### **Natural Disaster Assistance for Missouri Citizens: What To Do With Disaster Debris** (fact sheet), 8½”x11”, 5 pages

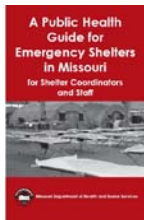
This fact sheet provides guidance on disposal of disaster debris after the Governor has declared a state of emergency due to damage caused by a natural disaster. The fact sheet is provided on the toolkit CD in pdf format. File name: DisasterDebris. The fact sheet is also available on the Missouri Department of Natural Resources’ website at <http://www.dnr.mo.gov/pubs/pub756.pdf>.



### **Natural Disaster Assistance for Missouri Citizens: Disaster-Related Animal Production Mortalities Emergency Procedures** (fact sheet), 8½”x11”, 4 pages

This fact sheet provides guidance to animal producers to address a disaster’s effect on their animals and property. The fact sheet is provided on the toolkit CD in pdf format. File name: AnimalMortalities. The fact sheet is also available on the Missouri Department of Natural Resources’ website at <http://www.dnr.mo.gov/pubs/pub1250.pdf>.

## 5. Housing/Mass Care Shelters



### **A Public Health Guide for Emergency Shelters in Missouri for Shelter Coordinators and Staff** (booklet), 5½”x8½”, 13 pages

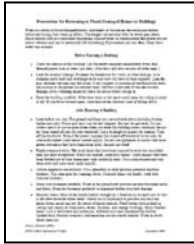
This booklet was developed to introduce and discuss some of the many aspects of planning for and opening an emergency shelter. The booklet is provided on the toolkit CD in pdf format. File name: ShelterGuide. The booklet is also available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/emergencies/ert/emershelterguide.php>.

Free printed copies of the booklet (Literature #229) can be ordered from the Missouri Department of Health and Senior Services’ warehouse using the Request for Literature form mentioned at the end of this document.



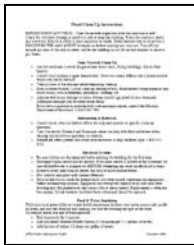
### **Food Safety at Emergency Shelters & Feeding Centers** (fact sheet), 8½”x11”, 1 page

This fact sheet provides guidance on food safety in emergency shelters and feeding centers. The fact sheet is provided on the toolkit CD in pdf format. File name: FoodShelterGuidelines. The fact sheet is part of the Emergency Response Public Information Toolkit for Local Public Health Agencies available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/living/lpha/toolkit/chap4/index.php>.



**Precautions for Returning to Flood Damaged Homes or Buildings** (fact sheet), 8½”x11”, 1 page

This fact sheet provides extra precautions to take before and during flood clean up efforts. The fact sheet is provided on the toolkit CD in pdf format. File name: FloodPrecautions. The fact sheet is part of the Emergency Response Public Information Toolkit for Local Public Health Agencies available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/living/lpha/toolkit/chap4/index.php>.



**Flood Clean Up Instructions**, (fact sheet), 8½”x11”, 1 page

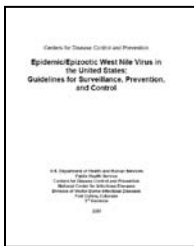
This fact sheet provides step-by-step clean up instructions on food and water sanitation, electrical systems, carpet and rug cleaning, furniture and household appliances, subfloors and walls, and mildew prevention and removal. The fact sheet is provided on the toolkit CD in pdf format. File name: FloodCleanup. The fact sheet is part of the Emergency Response Public Information Toolkit for Local Public Health Agencies available on the Missouri Department of Health and Senior Services’ website at <http://health.mo.gov/living/lpha/toolkit/chap4/index.php>.

## 6. Vector Control



**Missouri Department of Agriculture Rules Regulating Pesticides**, 8½”x11”, 13 pages

These rules regulate pesticide applicator licensures, including public health pest control, under the Missouri Pesticide Use Act (281.005-180 RSMo.). The rules are provided on the toolkit CD in pdf format. File name: PesticideRules. The rules are also available on the Secretary of State’s website at <http://www.sos.mo.gov/adrules/csr/current/2csr/2c70-25.pdf>.



**Epidemic/Epizootic West Nile Virus in the United States: Guidelines for Surveillance, Prevention, and Control** (booklet), 8½”x11”, 75 pages

This is the latest guidance from the Centers for Disease Control and Prevention regarding surveillance, prevention, and control of West Nile Virus. This booklet is provided on the toolkit CD in pdf format. File name: WestNileGuidelines. The booklet is also available on the Centers for Disease Control and Prevention’s website at <http://www.cdc.gov/ncidod/dvbid/westnile/resources/wnv-guidelines-aug-2003.pdf>.





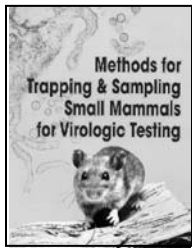
**Tick Management Handbook** (booklet), 8½”x11”, 78 pages

An integrated guide for homeowners, pest control operators, and public health officials for the prevention of tick-associated disease.

This booklet is provided on the toolkit CD in pdf format. File name: TickManagement. The booklet is also available on the Centers for Disease Control and Prevention’s website at

<http://www.cdc.gov/ncidod/dvbid/lyme/resources/handbook.pdf>.

**Note:** the geographical focus of this guide is the northeastern and upper Midwest United States, where the primary vector of Lyme disease, host-seeking nymphal Ixodes scapularis ticks (deer or blacklegged ticks), are abundant. Therefore, some of the recommendations for landscape management, management of host animals, and area-wide chemical and biological control may not be effective Integrated Pest Management practices for preventing the diseases carried by Missouri’s two most abundant ticks, Amblyomma americanum (lone star tick) and Dermacentor variabilis (American dog tick). Missouri’s most common tick-borne diseases are Rocky Mountain spotted fever, ehrlichiosis, and tularemia. As of September 2008, Lyme disease transmission has not been documented in Missouri.



**Methods for Trapping & Sampling Small Mammals for Virologic Testing** (booklet), 8½”x11”, 61 pages

This manual is intended as a guide for those people performing ecologic and epidemiologic studies involving populations of rodents that are potentially infected with hantavirus. As of September 2008, hantavirus has not been isolated in Missouri. However, the procedures outlined are appropriate for any investigation of small-mammal populations that may harbor an infectious zoonotic agent capable of causing severe disease or death. This booklet is provided on the toolkit CD in pdf format. File name:

SmallMammalTrapping. The booklet is also available on the Centers for Disease Control and Prevention’s website at

<http://www.cdc.gov/ncidod/dvrd/spb/mnpages/rodentmanual.htm#ohs>.

## 7. Hazardous Materials



**Natural Disaster Assistance for Missouri Citizens: Household Chemicals and Household Hazardous Waste** (fact sheet), 8½”x11”, 1 page

This fact sheet provides guidance to households on the identification, handling, clean up and possible disposal of chemicals commonly found around residences that may become hazards in disaster events. The fact sheet is provided on the toolkit CD in pdf format. File name:

HouseholdChemicals. The fact sheet is also available on the Missouri Department of Natural Resources’ website at

<http://www.dnr.mo.gov/pubs/pub762.pdf>.

## 8. Medical Waste



### **Regulated Medical Waste Resource Locator** (web page)

This web page provides guidance for groups that may become responsible for handling medical wastes. Due to additional protection procedures required for medical disposal, unanticipated hazards may be present when the usual disposal paths are disrupted in disasters. This web page can be found on the Environmental Compliance Assistance Platform's website at <http://www.envcap.org/statetools/rmw/MO-rmw.html>.



### **Management of Infectious Waste by Small Quantity Generators** (fact sheet), 8½"x11", 6 pages

This fact sheet provides detail on how a small quantity generator (less than 100 kilograms/month) should handle its infectious wastes. This is not specific for disaster situations but serves to educate those persons who may assist medical facilities in emergency events of extended duration. The fact sheet is provided on the toolkit CD in pdf format. File name: InfectiousWaste. The fact sheet is also available on the Missouri Department of Natural Resources' website at <http://www.dnr.mo.gov/pubs/pub188.pdf>.

## 9. Responding to a Radiological Incident



### **Frequently Asked Questions About a Radiation Emergency** (fact sheet), 8½"x11", 4 pages

This fact sheet provides answers to questions that first responders and the general public may have with an event involving radiological material. The fact sheet is provided on the toolkit CD in pdf format. File name: RadiationEmergency. The fact sheet is also available on the Centers for Disease Control and Prevention's website at <http://emergency.cdc.gov/radiation/emergencyfaq.asp>.



### **Frequently Asked Questions: Dirty Bombs** (fact sheet), 8½"x11", 3 pages

This fact sheet is very specific to an incident involving an explosive device used to distribute radiological material over a widespread area. The fact sheet is provided on the toolkit CD in pdf format. File name: DirtyBombs. The fact sheet is also available on the Centers for Disease Control and Prevention's website at <http://emergency.cdc.gov/radiation/dirtybombs.asp>.



**Facts About Evacuation During a Radiation Emergency** (fact sheet), 8½”x11”, 2 pages

This fact sheet provides information for determining whether to stay or leave an area of potential radiation exposure, how to evacuate, and what to leave or bring with those evacuating. The fact sheet is provided on the toolkit CD in pdf format. File name: RadiationEvacuation. The fact sheet is also available on the Centers for Disease Control and Prevention’s website at <http://emergency.cdc.gov/radiation/evacuation.asp>.



**Sheltering in Place During a Radiation Emergency** (fact sheet), 8½”x11”, 3 pages

This fact sheet details what should be considered when determining whether a population of an area exposed to a radiation event would be safer by sheltering in place. The fact sheet is provided on the toolkit CD in pdf format. File name: RadiationSheltering. The fact sheet is also available on the Centers for Disease Control and Prevention’s website at <http://emergency.cdc.gov/radiation/shelter.asp>.



**Radioactive Contamination and Radiation Exposure** (fact sheet), 8½”x11”, 2 pages

This fact sheet explains the difference between contamination and exposure, why they are different, and how to handle contamination. The fact sheet is provided on the toolkit CD in pdf format. File name: RadiationExposure. The fact sheet is also available on the Centers for Disease Control and Prevention’s website at <http://emergency.cdc.gov/radiation/contamination.asp>.



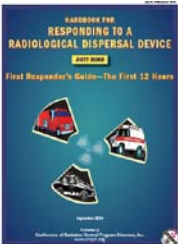
**Population Monitoring After a Release of Radioactive Material** (fact sheet), 8½”x11”, 2 pages

This fact sheet informs how public health officials would monitor people following a radiological incident, and how this monitoring could be used to protect people’s health. The fact sheet is provided on the toolkit CD in pdf format. File name: RadioactivePopulation. The fact sheet is also available on the Centers for Disease Control and Prevention’s website at <http://emergency.cdc.gov/radiation/populationmonitoring.asp>.



**Transportation Emergency Preparedness Program Emergency Responder Radioactive Material Quick Reference Sheet** (quick reference sheet), 8½”x11”, 2 pages

This quick reference sheet details placarding indicating radiological material transport, definitions specific to radiation, what is in a transportation manifest, and maximum radiation levels various transport packages and vehicle surfaces should possess. The quick reference sheet is provided on the toolkit CD in pdf format. File name: RadioactiveShipment. The quick reference sheet is also available on the U.S. Department of Energy’s website at [http://www.em.doe.gov/PDFs/transPDFs/May%202006%20RAM\\_Flatsheet.pdf](http://www.em.doe.gov/PDFs/transPDFs/May%202006%20RAM_Flatsheet.pdf).



**Handbook for Responding to a Radiological Dispersal Device, First Responder's Guide—the First 12 Hours** (booklet), 8½”x11”, 88 pages

This document was prepared as a training and reference tool for first responders with various degrees of radiological experience to promote consistency in addressing and resolving radiation protection issues. The booklet is provided on the toolkit CD in pdf format. File name: RadiologicalDevice. The handbook is also available on the Conference of Radiation Control Program Directors, Inc. website at [http://www.crcpd.org/RDD\\_Handbook/RDD-Handbook-ForWeb.pdf](http://www.crcpd.org/RDD_Handbook/RDD-Handbook-ForWeb.pdf).

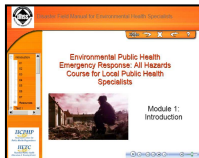
## 10. General Publications



**Request for Literature**

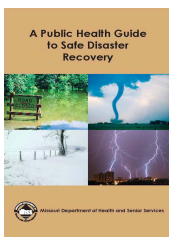
A few of the items included in this toolkit can be ordered at no cost from the Missouri Department of Health and Senior Services' warehouse using this Request for Literature form. An electronic version of the form in Word and pdf format are provided on the toolkit CD. File name: LiteratureOrder. The form is also available on the Missouri Department of Health and Senior Services website at

<http://health.mo.gov/emergencies/ert/doc/LiteratureOrder.doc>. The completed form can be faxed to 573-751-1574 or mailed to the department's warehouse. Please allow 3-4 weeks for literature orders to be filled. A complete list of other literature available from the department's warehouse can be found at <http://health.mo.gov/warehouse/e-literature.html>.



**Disaster Field Manual for Environmental Health Specialists Course** (online course)

This online course introduces the DHSS Disaster Field Manual. Each module in the course is specific to the chapters contained in the Disaster Field Manual and are designed to help use the manual. The online course was developed jointly with St. Louis University's Heartland Centers and is available through their Learning Management System (LMS) at [www.heartlandcenters.com](http://www.heartlandcenters.com). If you haven't accessed the LMS previously, you will need to establish an LMS account. A video on how to establish an account can be found on the LMS main web page.



**A Public Health Guide to Safe Disaster Recovery** (booklet), 5½”x8½”, 13 pages

This booklet was developed to assist communities and individuals in disaster recovery. It can be used for planning purposes to assist in preparedness and can be disseminated during a disaster to provide hands-on information and guidance to the public. The booklet specifically provides planning and recovery advice on life safety, disease prevention and environmental health issues (such as shelter, food, water and vector control) to protect public health following a disaster. The booklet is available on the Missouri Department of Health and Senior Services' website at <http://health.mo.gov/emergencies/ert/pdf/disasterrecoverybook.pdf>.

Free printed copies of the booklet (Literature #241) can be ordered from

the Missouri Department of Health and Senior Services' warehouse using the Request for Literature form mentioned above. (This booklet is not available on the toolkit CD.)