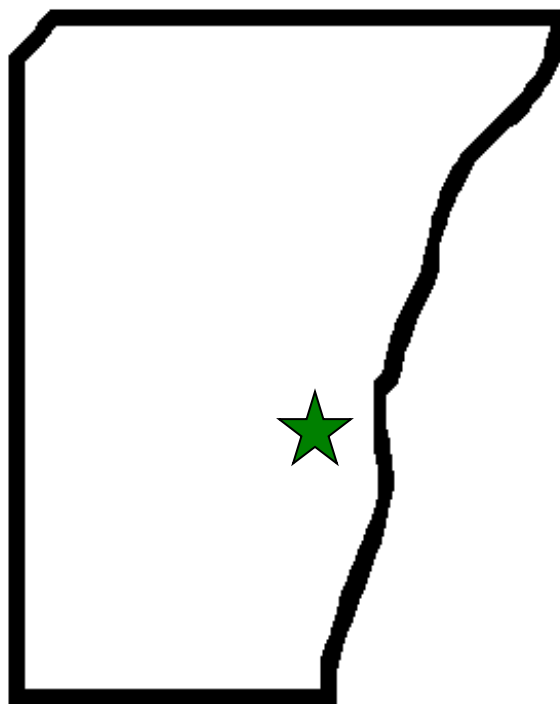


KEWAUNEE COUNTY MANURE SPILL RESPONSE GUIDE



Developed by:
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Kewaunee County Land & Water Conservation Dept.
Kewaunee County Emergency Management

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Emergency Response Plans are implemented when manure or other wastes from your operation are leaking, overflowing, or running off the site. The intent of this Manure Spill Response Guide is to provide Kewaunee County agriculture producers with practical information on how to respond to a manure spill including: eliminating the source, containing the spill, notifying appropriate agencies and cleaning up the spill. A well-designed and implemented response can reduce the severity of emergencies, the risk to humans and animals, the economic losses and the potential for environmental contamination.

Types of Emergencies

Your response to emergency situations will be depend upon site and situation specific circumstances, which your own emergency action plan should address. You should consider certain responses based on the type of emergency you are experiencing. These responses can be grouped according to three stages of emergency defined as imminent pollution, pollution in progress, and pollution discovered after the fact.

Imminent Pollution

In this type of situation, there have not yet been any leaks or spills. However, ignoring the fact that an emergency exists will probably result in a spill or leak within a short time. The main sources of this type of emergency are when lagoons or pits are nearing capacity, or when there is a potential for wastes to run off an application field.

- 1. *Storage capacity about to be exceeded.*** Long periods of excessive rain or malfunctioning livestock water systems may cause your storage to unexpectedly reach capacity. Your response should prevent the release of wastes.
- 2. *Potential runoff from application field.*** This situation could result from unexpected rains during, or within 72 hours after the application of manure. Again, this response is to prevent the release of wastes to neighboring areas.

Suggested responses to these types of problems include:

- Add clay-type soil to the berm temporarily to increase the elevation of the dam and remove when problem has passed
- Planned emergency utilization of manure by pumping onto fields at acceptable rates.
- Stop all additional flow to the storage (waterers, flushing system, etc.)
- Call a pumping contractor
- Prevent any surface water from entering the storage
- Consider maintaining some grassland near the storage for emergency manure application.
- Immediately stop additional waste application.
- Create a temporary diversion or berm to contain the waste on the field.
- Incorporate waste to prevent further runoff.

Pollution in Progress

In this situation, the storage or waste handling system is actively leaking. Your main goals are to stop the flow and minimize the impact of the leak on the environment.

- 1. *Leaking or broken pipe, pit wall, or lagoon berm.*** These leaks may be seepage or flowing wastes. Your response will depend on the impact of the leaking waste (is it on your property or off?). All leaking waste should be treated the same whether it is on your property or not. The response should be dependent on the potential risk to human health, safety or the environment.
- 2. *Manure tanker leak or overturn.*** There is a good chance that this emergency will be off your property and may include personal injuries (i.e. car accident). As in any animal waste

emergency, human injuries take precedence over all other responses. Once the injury is handled, limiting the environmental impact becomes the main goal in responding to this type of emergency.

Possible solutions include:

- Stop flow into pipe, pit or lagoon or additional spill of material.
- Prevent additional leaking of material by turning off the recycle flushing system; closing valves controlling outflows; and preventing siphon effect.
- Dig a holding area or construct a berm to contain waste.
- Repair defective components such as berm leaks caused by animals; trap or remove animals such as rodents and fill holes with compacted clay soil.
- Begin clean-up procedures.
- If manure/soil is spilled on a public roadway – clean manure off immediately to limit further risk of injury and farm liability for the spill.

Lagoon problems may require consultation with the Kewaunee County Land and Water Department to make permanent repairs.

Pollution discovered after the fact

This situation occurs when as many as several days have passed before a leak is discovered. There is potential for increased environmental impact due to the late discovery of waste leakage. Response should be swift to minimize damage as much as possible.

Responses include:

- Stop additional leakage.
- Contain spilled wastes
- Attempt application of spilled wastes on cropland
- Notify agencies and local authorities.
- Assess environmental impact of fish kill, surface water pollution, well or ground water impact, and amount of waste released and for what duration.

***Wisconsin state law
requires immediate
reporting of spills to
the DNR spill
reporting hotline at
1-800-943-0003.***

Emergency Response Plans

Do not wait until manure or wastewater reaches a stream or leaves your property to acknowledge that you have a problem; make every effort to ensure that this situation does not happen. Your emergency plan should be available to all employees, and they should be trained in its use because accidents, leaks and breaks can happen at any time.

To be effective, the Emergency Response Plan should be implemented as follows:

1. Eliminate the source.
2. Contain the spill, if possible
3. Assess the extent of the spill and note any obvious damage.
4. Report the spill to: Wisconsin DNR Spill Reporting Hotline at 1-800-943-0003
Andrea Gruen, DNR Wastewater Specialist at 920-662-5460
Davina Bonness, Kewaunee Land & Water Conservation Dept. at
920-845-9743
5. Clean up the spill and make repairs.
6. Document the spill in writing and take photos or video footage of spill and cleanup efforts if possible.
7. Prepare and submit a summary report.

Eliminate the source.

Depending on the situation, this may not be possible. Suggested responses to several problems are listed below.

1. Lagoon or slurry basin overflow responses.
 - Add clay-type soil temporarily to the berm, increasing the elevation
 - Pump manure and wastewater to fields at an acceptable rate.
 - Stop all additional flow to the storage structure.
 - Call a pumping contractor
 - Prevent any surface water from entering the storage structure.

2. Runoff from manure application field responses.
 - Immediately stop application.
 - Create a temporary diversion or berm to contain manure on the field.
 - Incorporate manure, reducing further runoff.
 - Evaluate and eliminate the situation that caused the runoff.
 - Evaluate the application rates for the fields where runoff occurred.

3. Leakage from the manure distribution or irrigation system. Pipe and sprinkler responses include:
 - Stop flushing system pump.
 - Stop irrigation pump.
 - Close valves, eliminating further discharge.
 - Make sure no siphon effect has been created.
 - Separate pipes, creating an air gap to stop flow.
 - Repair all leaks prior to restarting pumps.

4. Leakage from base or sidewall of lagoon or earthen storage structure. Possible responses are as follows:
 - Dig a small, temporary basin or ditch to catch all seepage, put in a submersible pump and pump back into lagoon.
 - If holes are caused by burrowing animals, trap or remove animals, fill holes and compact with clay soil.
 - Contact the Kewaunee County Land & Water Conservation Department for assistance in making permanent repairs.

5. Manure leakage or discharge from tile drains. Responses are as follows:
 - Contain manure by damming the field drain.
 - Plug the tile outlet, forcing manure infiltration into the field.

Contain the spill when it occurs.

Minimize manure movement off the farm or downstream, therefore minimizing its environmental impact.

1. Manure spill or discharge into a stream or ditch.
 - Contain manure by creating a dam in the field, ditch, or stream.
 - Pump collected manure onto field, into storage structures or into manure tankers.

2. Seepage or manure flowing from a lagoon or storage facility.
 - Construct a temporary basin down-slope from the seepage area. Do not damage the existing embankment while creating the temporary basin.
 - If accessible, place soil over the point of seepage, but do not drive over or compact the seepage point. This may speed up rather than slow down the loss of manure.
 - Pump out stored manure and wastewater to a depth below the seepage point.

Assess the extent of the spill and note any obvious damages

1. Did the waste reach any surface waters or groundwater?
2. Approximately how much was released and for what duration?
3. Did any damage occur, such as employee injury, fish kills, or property damage?
4. What is the distance and direction to the nearest neighbor, town, or public well from the release?
5. Did the spill leave the property?
6. Can the spill potentially reach surface waters?
7. Could a future rain event cause the spill to reach surface waters?
8. Are potable water wells in danger (either on or off the property)?
9. Review any actions that were taken to contain or minimize the spill or discharge.

Notify the appropriate agencies

State law requires immediate reporting of all spills to the Wisconsin Department of Natural Resources. Some action should have occurred to address the problem before calling, because one of the questions asked is what has been done to mitigate the problem. For Wisconsin Pollutant Discharge Elimination System (WPDES) permit holders, the 24-hour reporting requirement appears in the facility's permit language where all permit violations need to be reported within 24-hours, spills included. For example, if a WPDES permit facility has a spill and reports it to the DNR, the facility also is responsible to contact their permit regulator within 24-hours to report a permit violation (ie: manure spill).

The State of Wisconsin offers a spill reporting hotline number that is staffed 24 hours a day. The hotline is staffed so specific information can be collected. Only leaving a message does not meet spill-reporting requirements. **The toll-free spill reporting hotline is 1-800-943-0003.**

In addition, the Kewaunee County Land & Water Conservation Department should also be contacted at 920-845-1360, ext 3. When reporting a spill, the following information is required.

Your name

Facility

Telephone number

Details of the incident

Exact location of the facility and the location or direction of movement of the spill

Weather and wind conditions

What corrective actions have been taken

Seriousness of the situation

Clean up the spill and make repairs

Perform any modifications that the DNR officials and Kewaunee County Land & Water Conservation Department Staff recommend to rectify the damage, repair the system, and reassess the manure management plan to ensure that the problem does not happen again in the future.

The emergency response plan must include provisions for emergency spreading or transfer of waste from all waste storage structures at the facility. This may include emergency pumping or spreading during periods when soil or crop conditions are not conducive to normal spreading or application. Contact the Kewaunee County Land & Water Conservation Department for guidance on land application of manure. Assess fields that are best able to hand the waste without further environmental damage. Application rates, methods, and minimum buffer distances must be addressed.

Post-spill assessment and reporting

If a manure spill occurs on your farm, you must file a written report with the Kewaunee County Land & Water Conservation Department following the incident. The report is due within three (3) weeks of the spill. The following information should be included in the post-spill report.

1. Assess the extent of the spill and note any obvious damages.
 - Did the waste reach any surface water, wetlands, tile drains, or wells?
 - Approximately how much manure was released and for what duration?
 - Did any damage occur, such as employee injury, fish kills, or property damage?

2. Response to the spill.
 - When and where was the spill contained?
 - What measures were taken to avoid additional contamination and threat to the environment or human health?
 - Did anyone or any local group assist in the cleanup?
 - Was a technical specialist (DNR representative, Kewaunee County Conservationist or Conservation Technician) consulted?
 - What corrective actions are necessary to repair any damage to your manure storage structure, manure transfer or application equipment?

3. Cause of the spill
 - Can you determine the cause of the spill or discharge?
 - Were signs present of the condition before the accident occurred?

4. Contact the appropriate agencies
 - When were local and state agencies contacted, notifying them of the spill?
 - Did a representative of the DNR or Kewaunee County Land & Water Conservation Department respond to the notification? (List names, titles and agencies)
 - Did state or local representatives give you any special instructions?

Remember, no matter how a manure spill happens, immediate action is required to prevent more serious problems. A well-designed and implemented response can reduce the severity of emergencies, the risk to humans and animals, the economic losses and the potential for environmental contamination.

Acknowledgements

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