

Missouri Closed Landfill Technical Assistance Project

Presenter:

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History

- 1970 – EPA mandated the closure of town dumps
- 1970-1975 – more than 550 town dumps were closed in Missouri
- 1972 – Missouri Solid Waste Management Law was passed
- 1974 – MDNR was created & took over the regulation of landfills
- 1987 – MDNR regulations were amended to require post-closure care & FAIs

Need for Project

- Moving from dumps to landfills required a paradigm shift
- Poor site selection in cases
- First regulations required no FAIs or post-closure period, & few environmental control systems
- Lack of filed documentation
- Change of site ownership
- Abandoned sites; sites sold at tax sales, sometimes to unaware buyers

Bottom Line

- For all these reasons, it is prudent to evaluate the present condition of these early landfills

Grant Background

- Focus is on old, closed landfills in sparsely populated areas in Missouri
- Applied for in December 2009
- Awarded in Spring 2010
- Work on the project began October 1, 2010

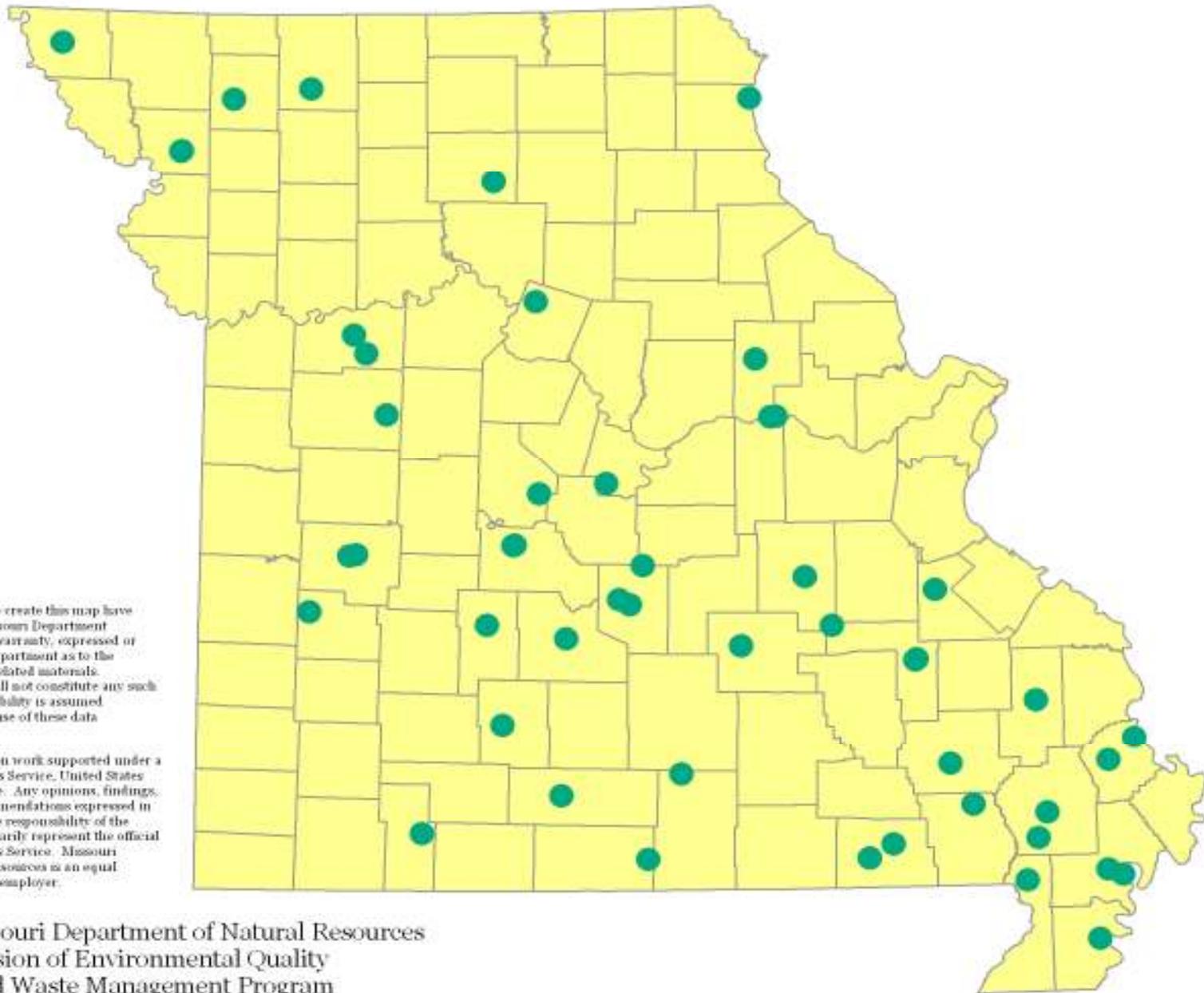
Purpose of the Grant

- Assess the condition of landfills
- Based on assessments, MDNR will work with owners and counties to:
 - Discuss the findings
 - Discuss the regulatory requirements
 - Provide technical assistance and guidance

Specifics of the Study

- Completed
 - Researched & compiled list of potential landfills to be assessed
 - Selected 58 rural landfills
 - Conducted 58 site assessments
- Ongoing
 - Compiling results & writing reports
 - Updating & creating guidance & educational materials
 - Meeting with landfill owners
 - Disseminating information

All 58 Landfills Assessed



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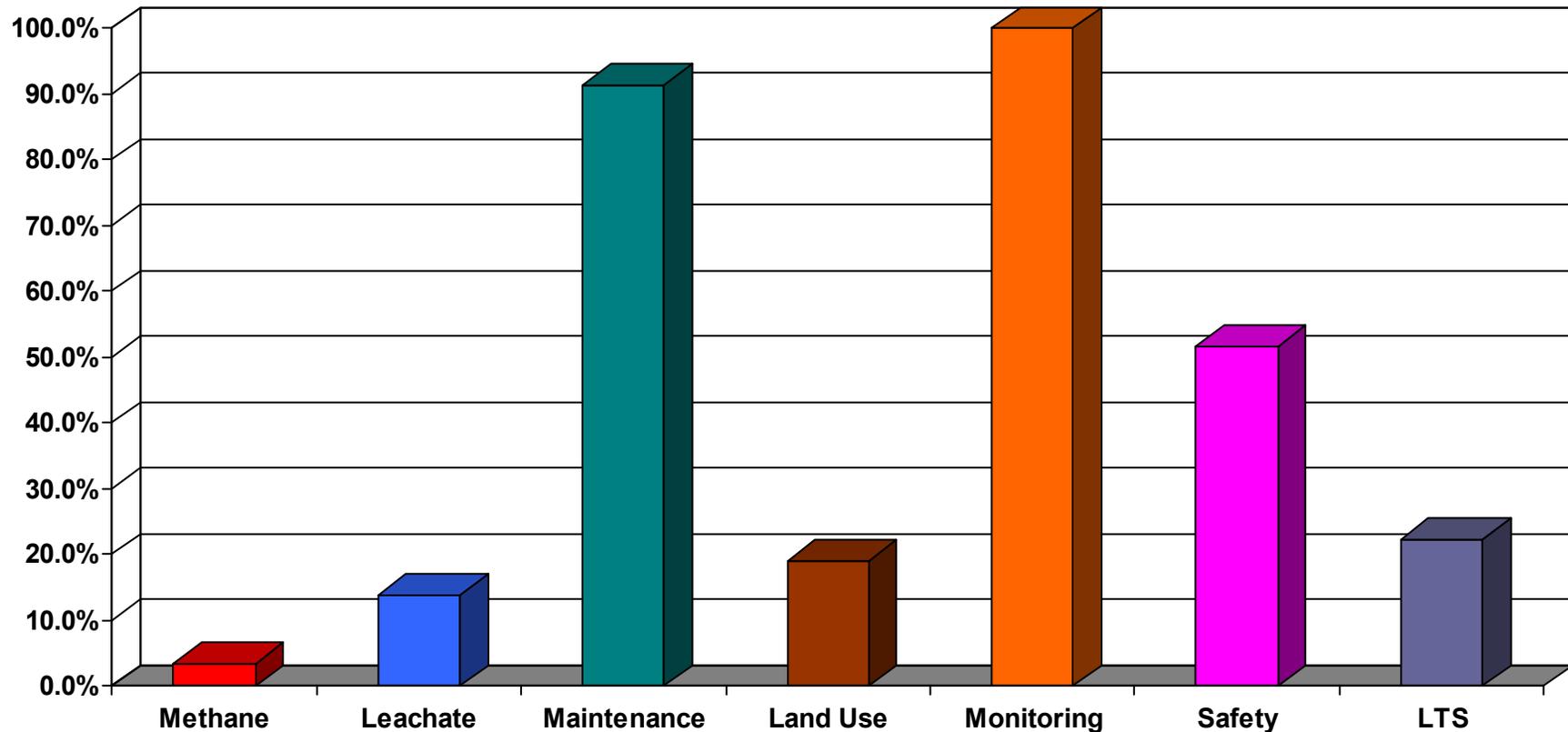
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What the Study Found

The common issues:

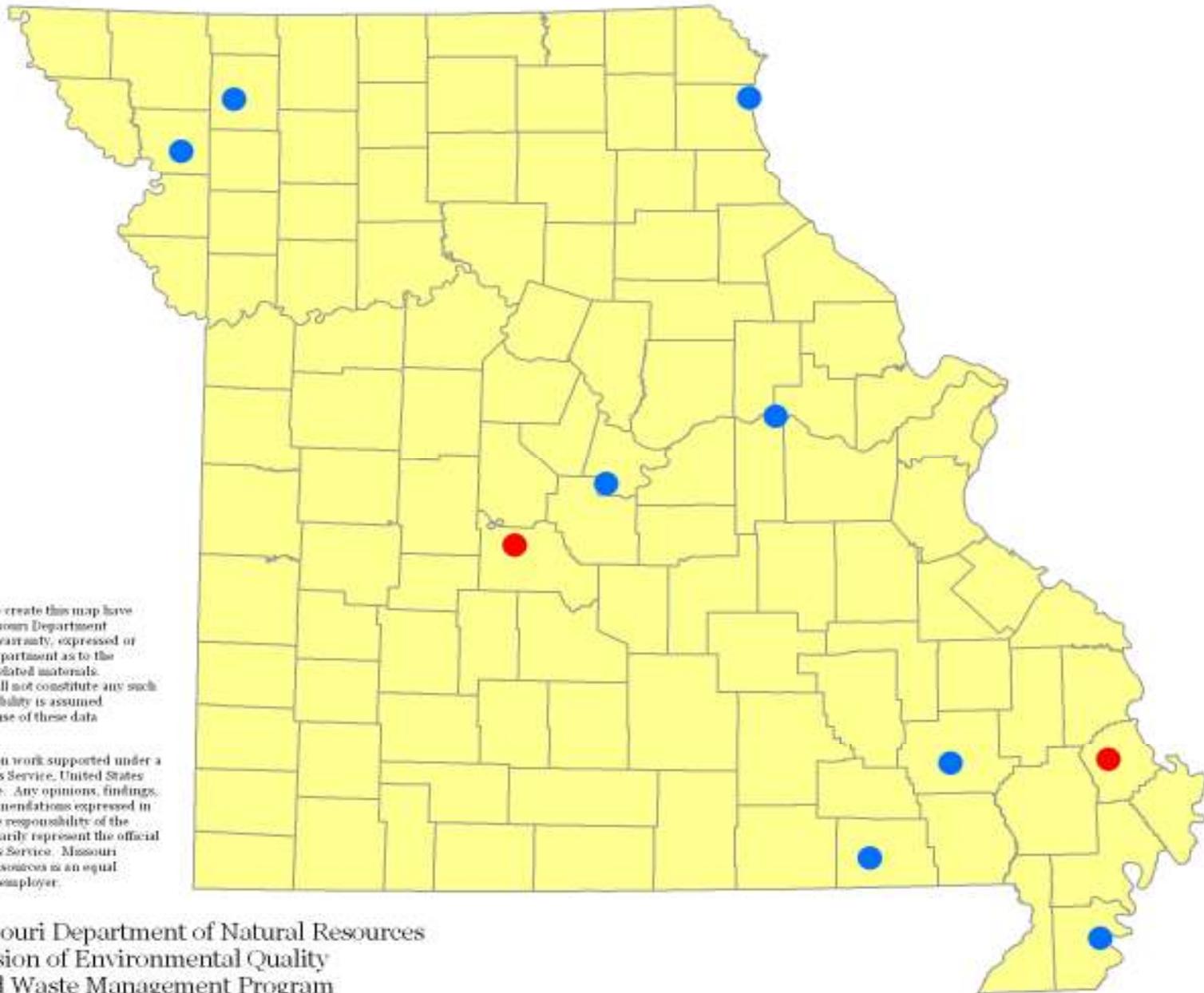
- Off-Site Concerns
 - Methane Gas
 - Leachate
- On-Site Challenges
 - Maintenance
 - Land Use
 - Monitoring
 - Public Safety
 - Long-Term Stewardship

Percent of Landfills with Deficiencies by Category



Off-Site Problems

Methane 3.4% of Assessed Landfills, Leachate 13.8% of Assessed Landfills



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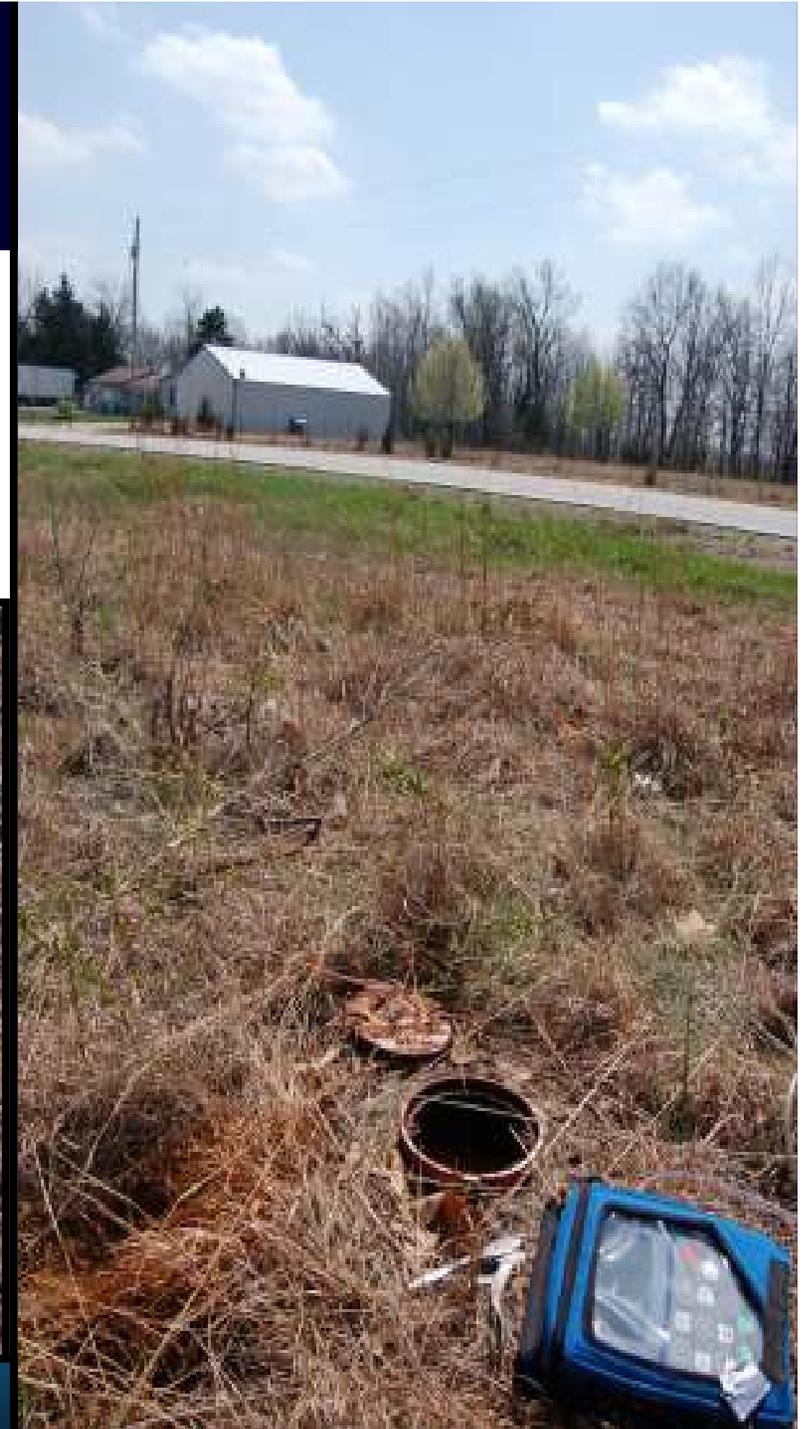
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Methane Gas Migration

- This is the most dangerous problem at a landfill
- Occupied structures are the biggest concern



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Leachate

- What it is: water that has come become contaminated from contact with waste & seeps out of the landfill
- Threatens:
 - Surface water
 - Groundwater
 - Domestic wells

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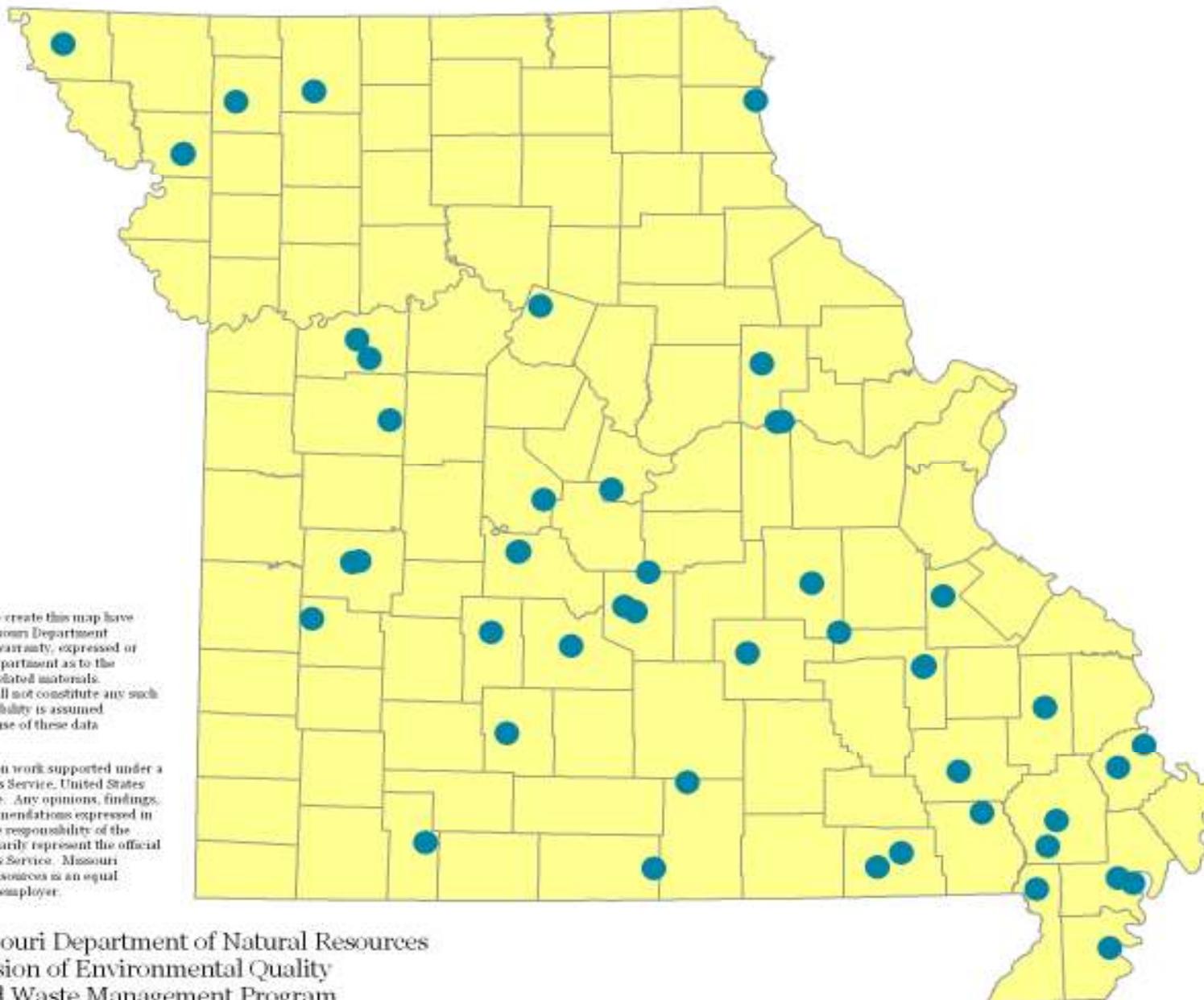
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Lack of Maintenance

91.4% of Assessed Landfills



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Lack of Maintenance

- Overgrown by Trees and Brush from Failure to Mow
- Subsidence & Ponding
- Erosion
- Poor Soil Cap
- Poor Vegetation
- Burning of Vegetative Cover

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**Mowed
lately??**



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Lack of Maintenance (cont.)

- Leachate Outbreaks
- Failure to Maintain Environmental Control Systems
- Wells Not Properly Abandoned
- Damage by Owners
- Damage by Trespassers

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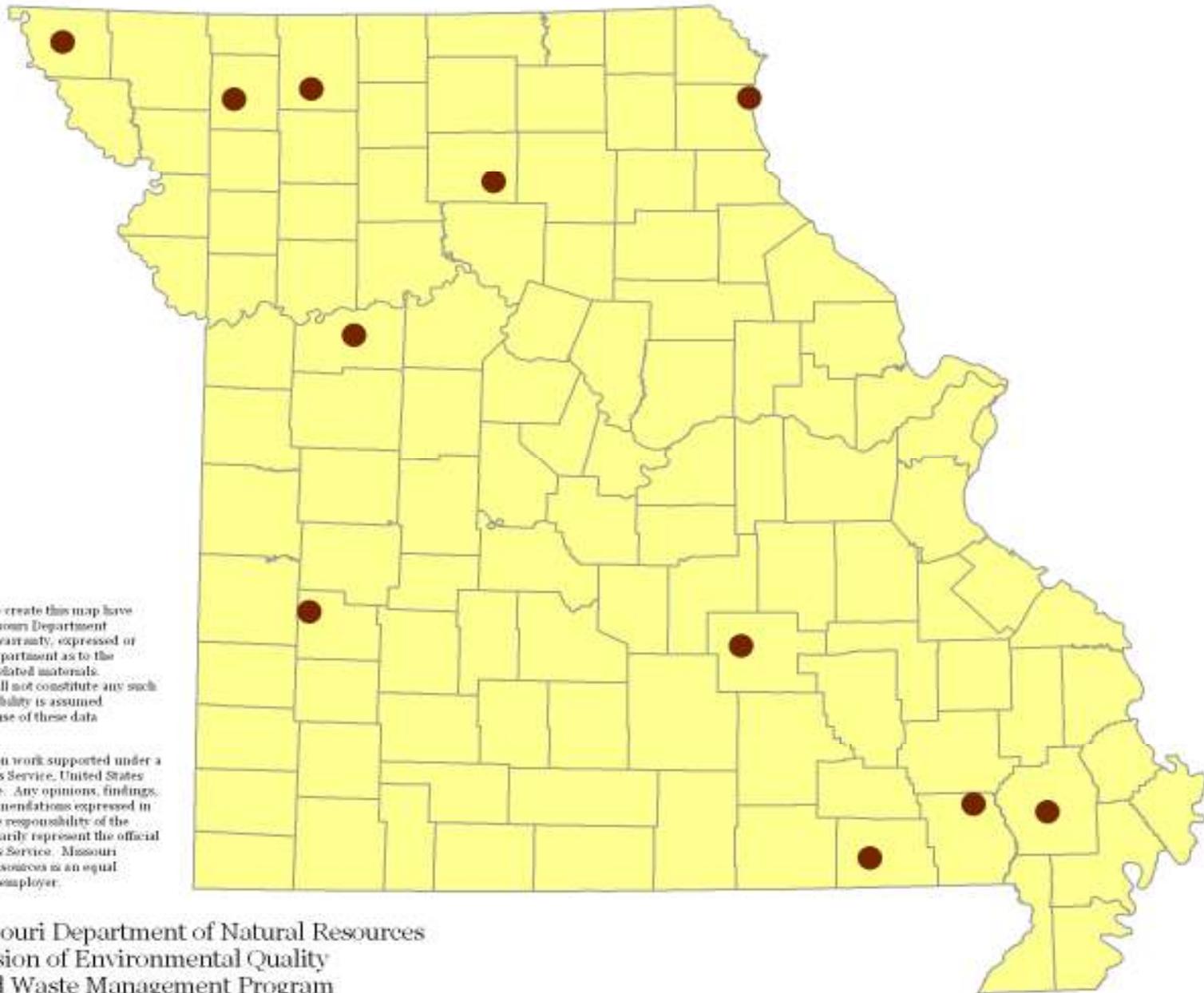


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Land Use Impacts

19.0% of Assessed Landfills



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Grazing - cattle



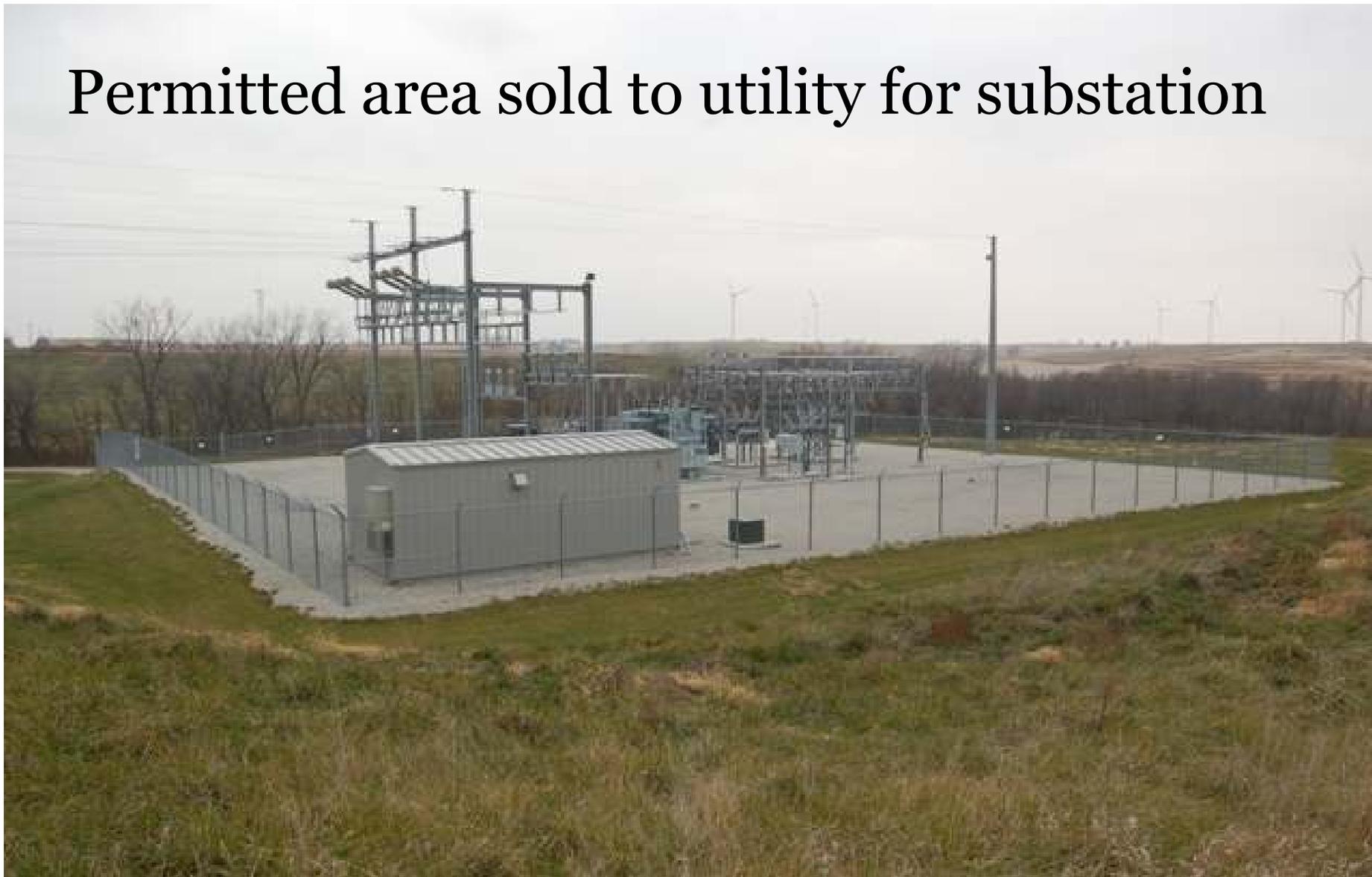
Grazing - horses



Plowing
- row
crops



Permitted area sold to utility for substation



Monitoring Deficiencies

100% of Assessed Landfills Required to Monitor



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Monitoring Deficiencies

- Gas Wells
- Groundwater
Monitoring Wells



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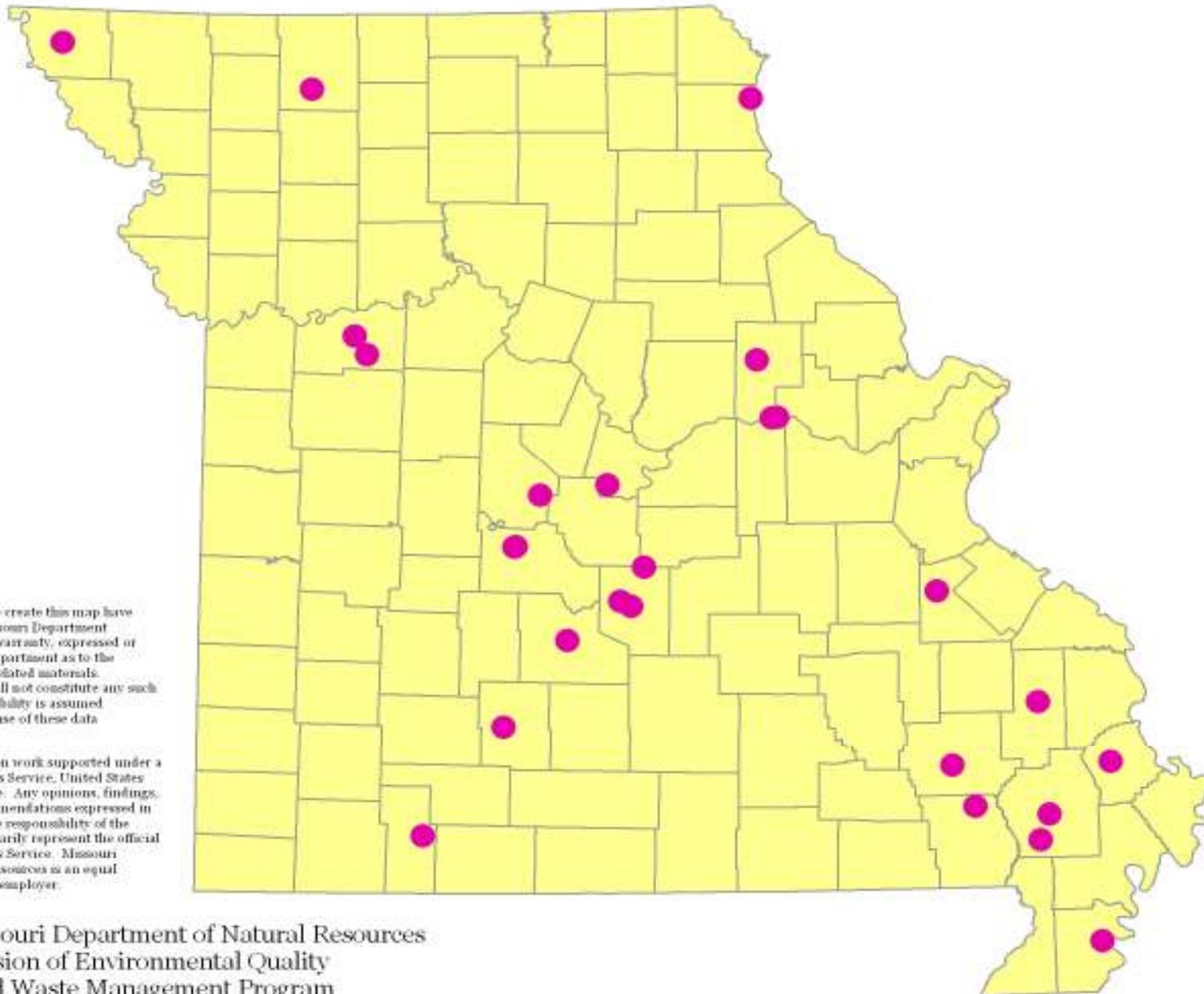
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**NO
DATA!!**



Public Safety Concerns

51.7% of Assessed Landfills



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- Methane Gas Migration





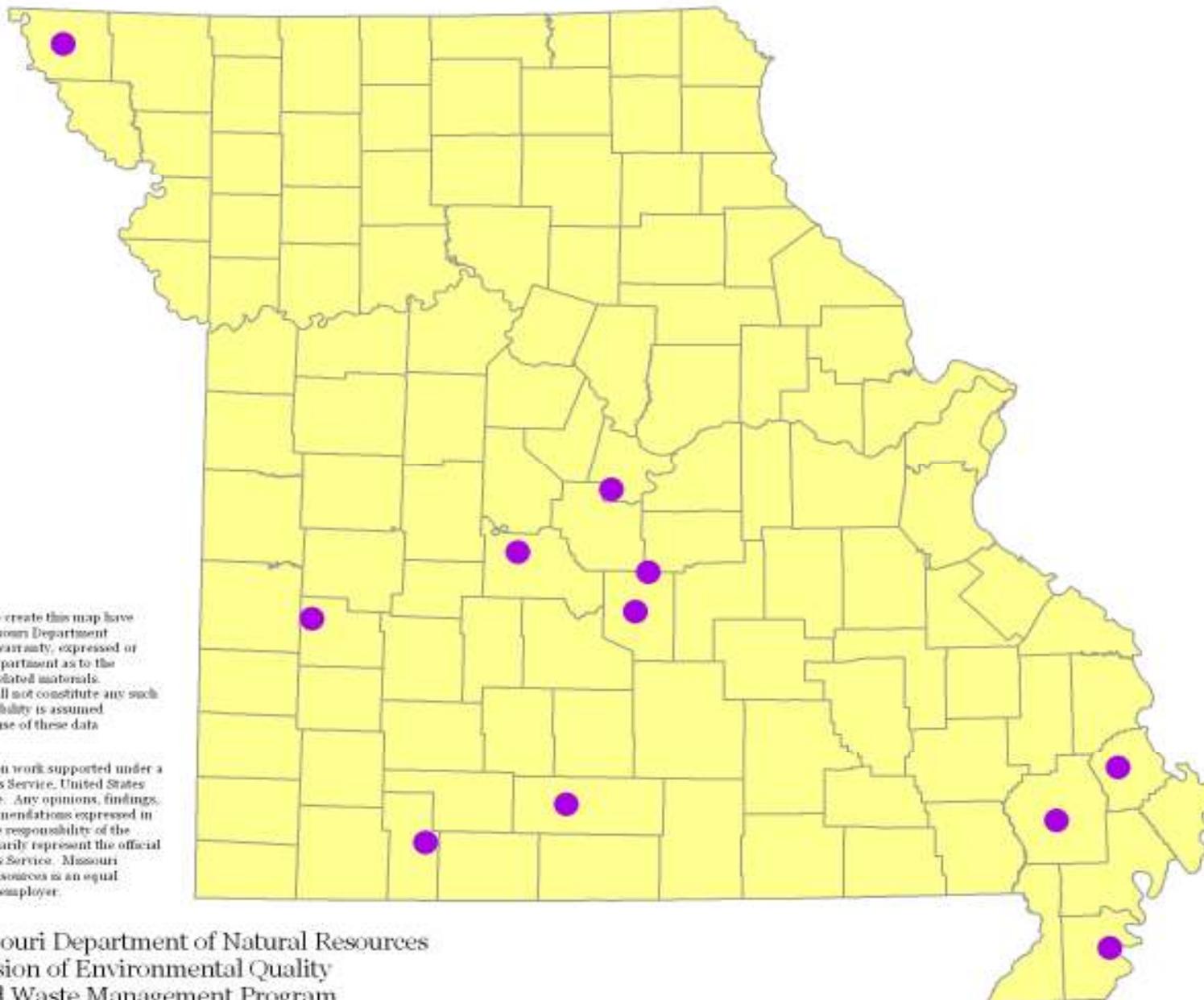
- Domestic wells within 300 feet of a landfill

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Long-Term Stewardship Issues

22.4% of Assessed Landfills



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Long-Term Stewardship Issues

- Plat not filed
- Easement, notice & covenant not filed
- Site modified without prior approval
- Landfill sold without MDNR notification

Selling a Landfill

The Missouri Solid Waste Management Law requires sellers to disclose early in the negotiation process:

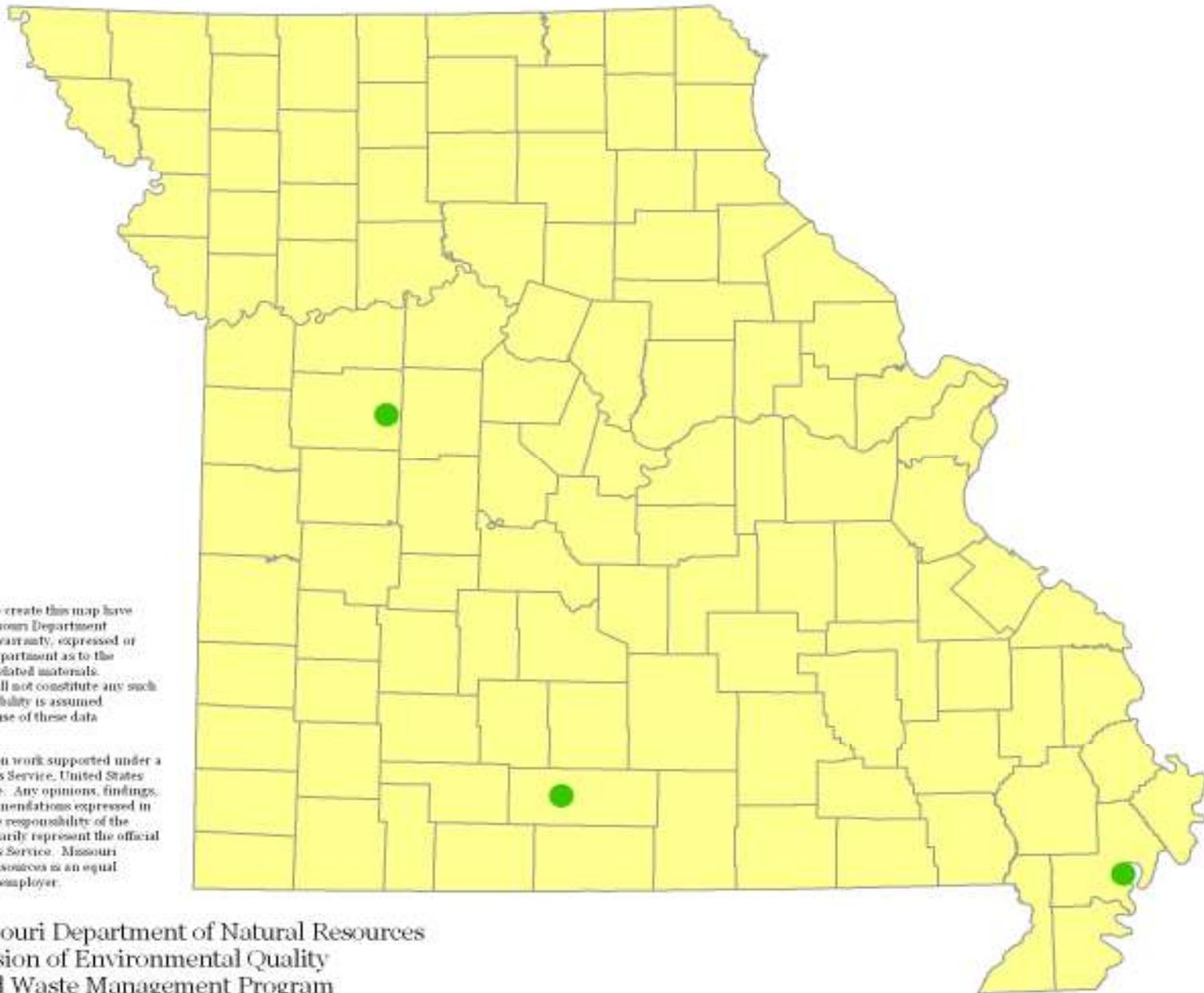
- the presence of a landfill on the property
- maintenance requirements
- owner liabilities

Buying a Landfill

- Contact the Solid Waste Management Program prior to any sale
- Learn:
 - potential liabilities
 - regulatory requirements
 - maintenance & care guidelines

No Significant Site Deficiencies

6.9% of Assessed Landfills



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Results Show

The need for:

- landfill owners to be informed
- landfills to be maintained
- activities on landfills to be controlled
- information to be passed to successive owners
- awareness of potential for landfill impacts to nearby properties

What's Next

- Compile reports
- Meet with landfill owners
- Follow up on
 - Corrective Action needs
 - Long-Term Stewardship needs
- Increase educational outreach

Conclusions

- Landfill age may or may not decrease on- or off-site impacts
- Size of the landfills may differ, but the issues/problems are similar
- When a landfill is “closed” it does not mean the owner can “walk away”
- Landfill upkeep and maintenance must continue until public safety concerns & environmental impacts are gone

What Remains after Post-Closure

- Waste – metals, glass, plastics
- 10 CSR 80-2.030(3) – no person may excavate, disrupt or remove any deposited material from any...discontinued solid waste disposal area without prior approval from MDNR

What Remains after Post-Closure (cont.)

- The responsibility to disclose the presence of a landfill during a sale
- The requirements of the Federal Clean Water Act & the Missouri Clean Water Law
- The civil liability for off-site impacts to people & properties

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For Additional Information

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Survey Assessment

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Discussion