



U.S. Department of Transportation  
Pipeline and Hazardous Materials  
Safety Administration



# PHMSA's Damage Prevention Assistance Program (DPAP)



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**Know what's below.**  
**Call before you dig.**



# Presentation Overview

- PHMSA's perspective on damage prevention
- The need for the nine elements
  - The “damage prevention landscape”
- The nine elements – a summary
- Characterizing state damage prevention programs
- State Damage Prevention (SDP) grants





# Damage Prevention --PHMSA's Perspective--

- PHMSA's focus is pipelines, but...
- Damage prevention for pipelines is damage prevention for all utilities – damage prevention takes place on our common ground
- All stakeholders must be involved
- The elements of effective damage prevention programs are spelled out in the PIPES Act of 2006 – the “Nine Elements”
- States need funding to implement the nine elements, which is the purpose of the State Damage Prevention (SDP) grant program





# Why Does PHMSA Care about DP?

- Excavation damage is the leading cause of “significant” pipeline incidents (causing injury or fatality)
  - From 1988 to 2008, 34.5% of significant pipeline incidents were caused by excavation damage
  - In 2007, excavation damages caused 20% of pipeline incidents
    - These incidents resulted in 4 fatalities, 10 injuries, and considerable expense\*
- There are approximately 2.2 million miles of pipeline in the United States
- Excavation damage impacts all other underground utilities, causing service outages, affecting lives, and costing untold millions of dollars

\* Source: PHMSA Significant Incidents Files April 14, 2008





# The Need for the Nine Elements The “Damage Prevention Landscape”

- Damage prevention is a shared responsibility, but damage prevention is largely executed at state and local levels
- There is considerable variability between the provisions of state damage prevention laws...





# OCSI One-Call Laws Summary

## One Call Laws Summary/State One Calls Laws & Provisions

State Legislation	Coverage / Statewide	Mandatory Membership	Civil Penalties	Tolerance Zone	Hand Dig Clause	Mandatory Premark	Emergency Clause	Positive Response	Excavator Permit Issued	Damage Reporting
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**Definitions of Exemptions:**  
**DOT** Department of Transportation exemption from being a member with state one call center  
**Dpth** Vertical excavation limit  
**H/O** Home owner exemption from calling for locates  
**R/R** Railroad exemption from being a member with state one call center  
**AGR** Agriculture exemption from calling for locates

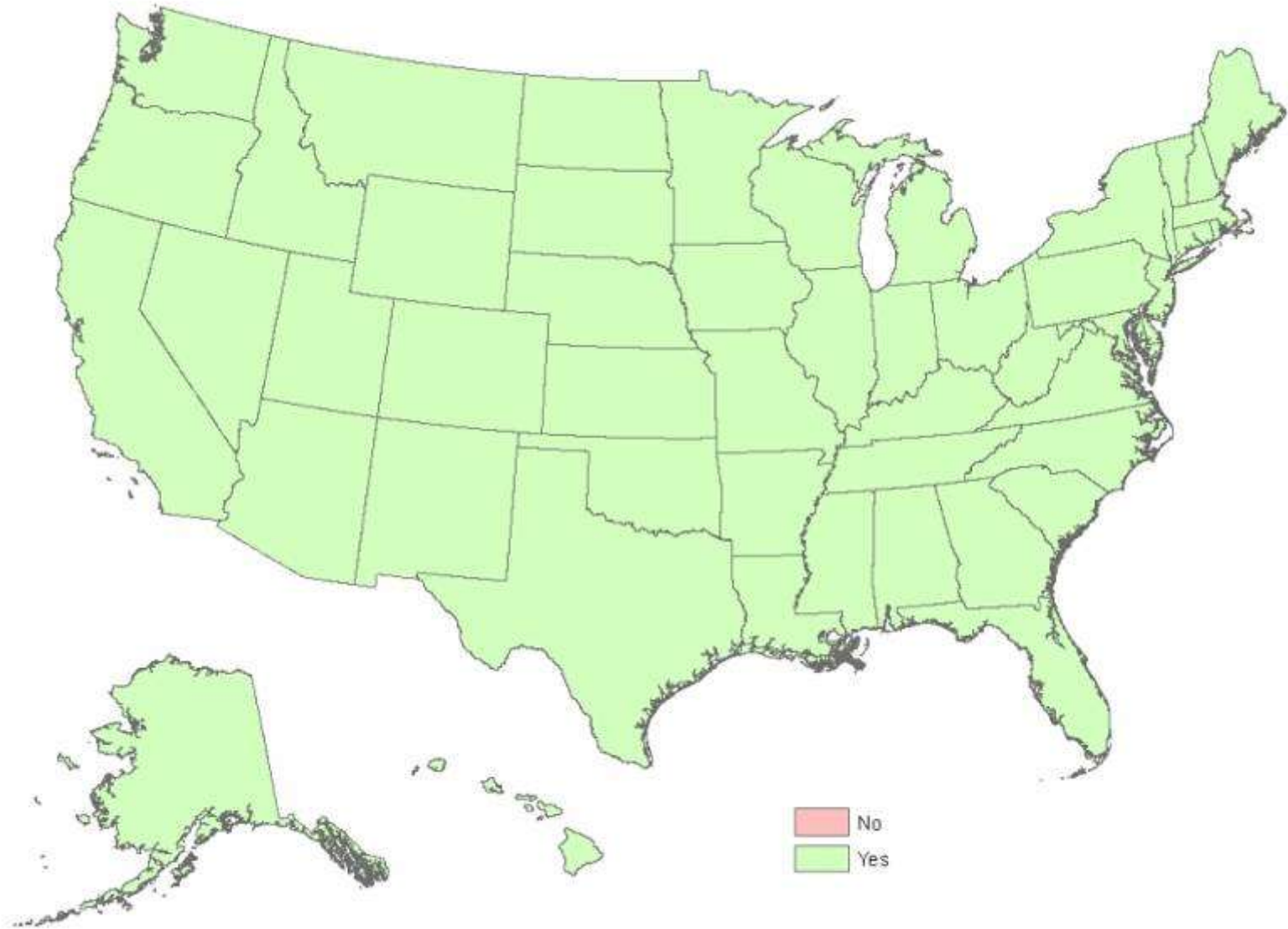
State	State Legislation	Coverage / Statewide	Mandatory Membership	Civil Penalties	Tolerance Zone	Hand Dig Clause	Mandatory Premark	Emergency Clause	Positive Response	Excavator Permit Issued	Damage Reporting	DOT	Dpth	H/O	R/R	AGR
Alabama	✓	✓	●	✓	18"	✓	●	✓	✓	●	●	✓	12"	✓	✓	✓
Alaska	✓	✓	●	✓	24"	●	●	✓	●	●	●	●	●	●	●	●
Arizona	✓	✓	✓	✓	24"	✓	●	✓	✓	●	●	●	●	●	●	✓
Arkansas	✓	✓	✓	●	18"	✓	●	✓	✓	●	●	✓	●	●	●	✓
California	✓	●	✓	✓	24"	✓	✓	✓	✓	✓	●	✓	●	✓	●	●
Colorado	✓	✓	✓	✓	18"	●	●	✓	✓	●	✓	✓	●	●	✓	✓
Connecticut	✓	✓	✓	✓	18"	✓	✓	✓	✓	●	✓	●	●	●	●	✓
Delaware	✓	✓	✓	✓	24"	✓	●	✓	✓	●	●	●	●	✓	●	●
Dist. of Columbia	✓	✓	✓	✓	18"	✓	●	✓	✓	●	●	●	●	●	●	●

Source: 2009-2010 OCSI Resource Guide (p. 19)



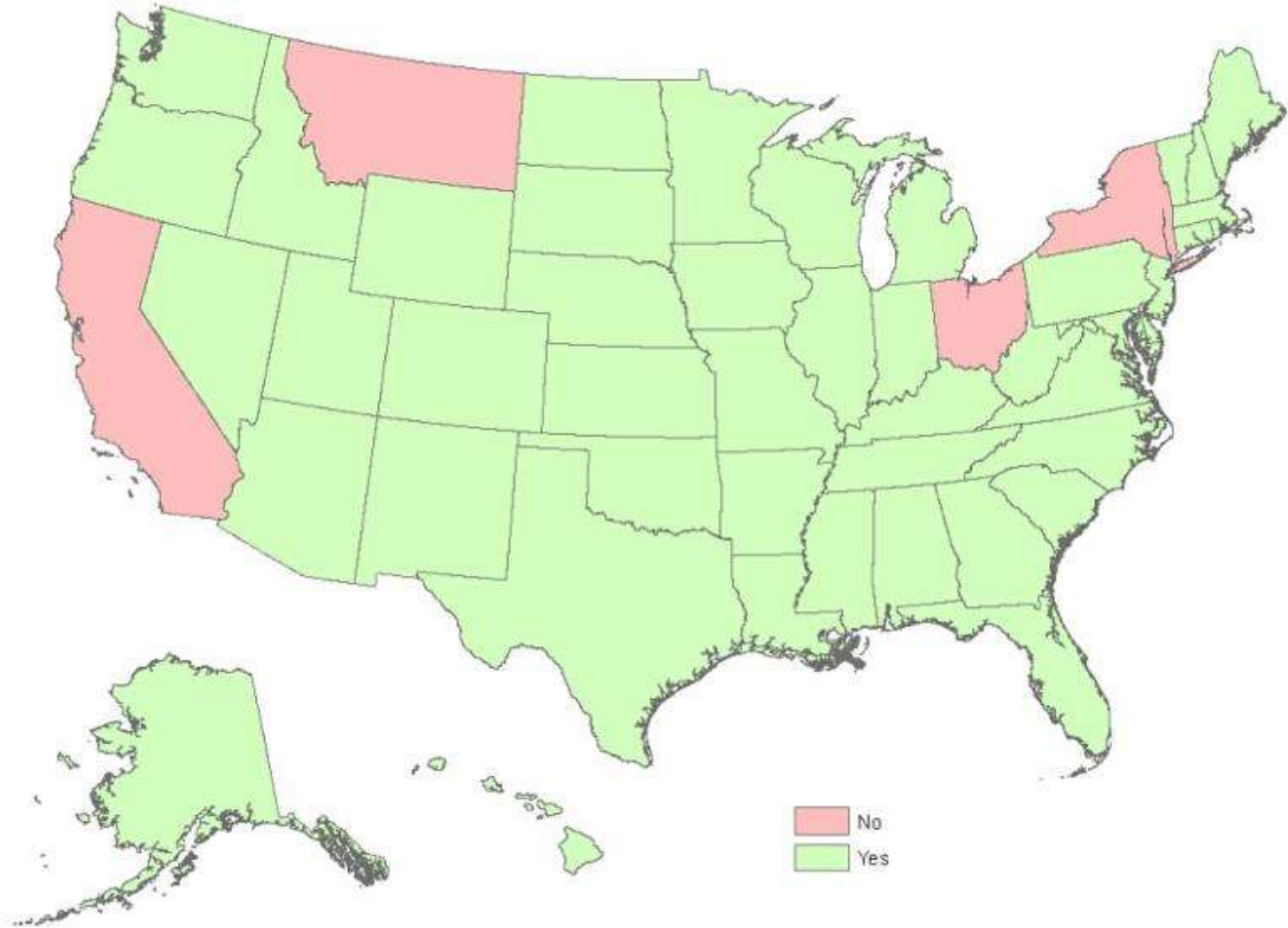
Know what's below.  
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# All States Have a DP Law



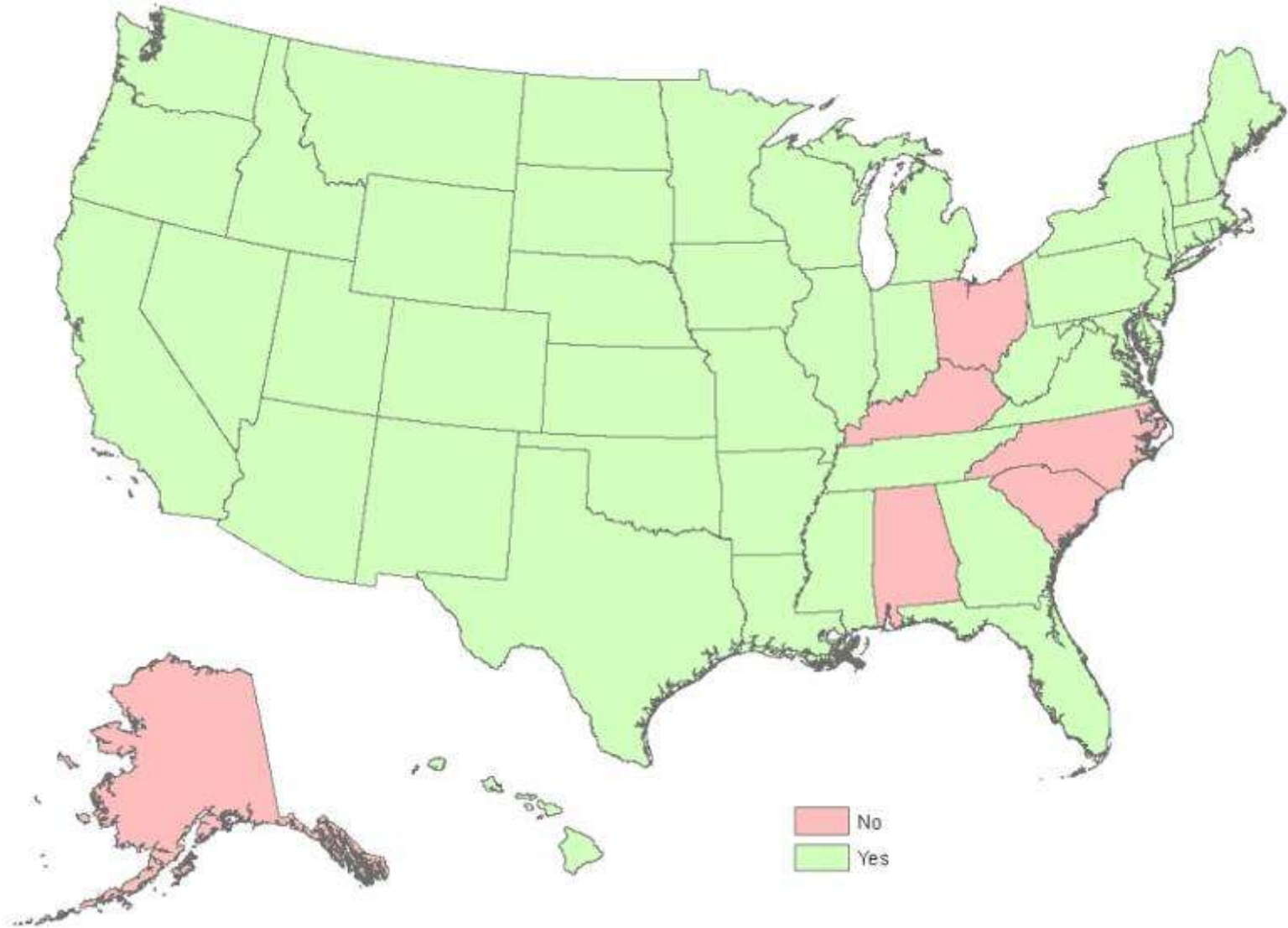
Source: One-Call Systems International Committee of the Common Ground Alliance

# Statewide Coverage of Law?



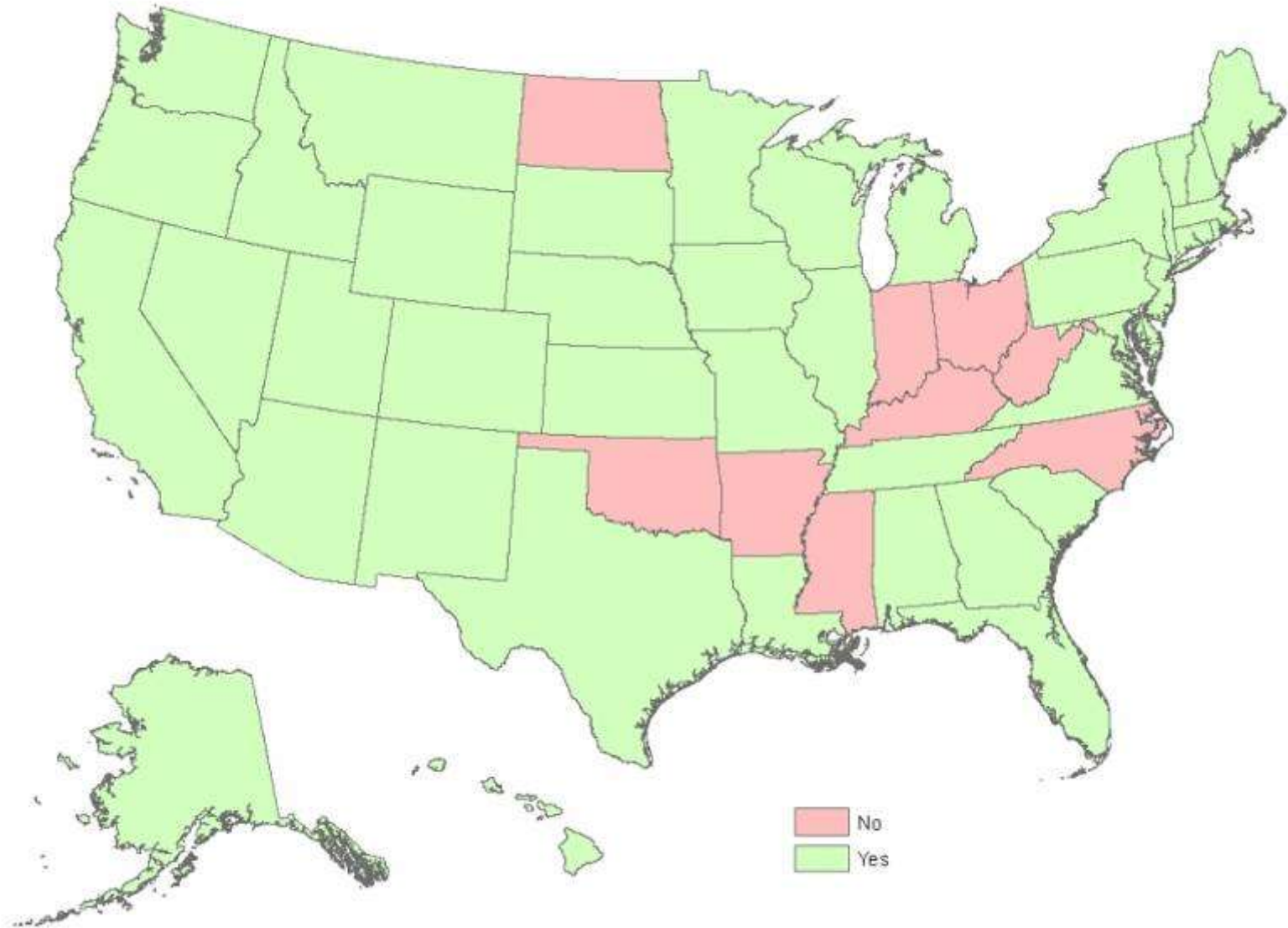
Source: One-Call Systems International Committee of the Common Ground Alliance

# Mandatory One-Call Membership?



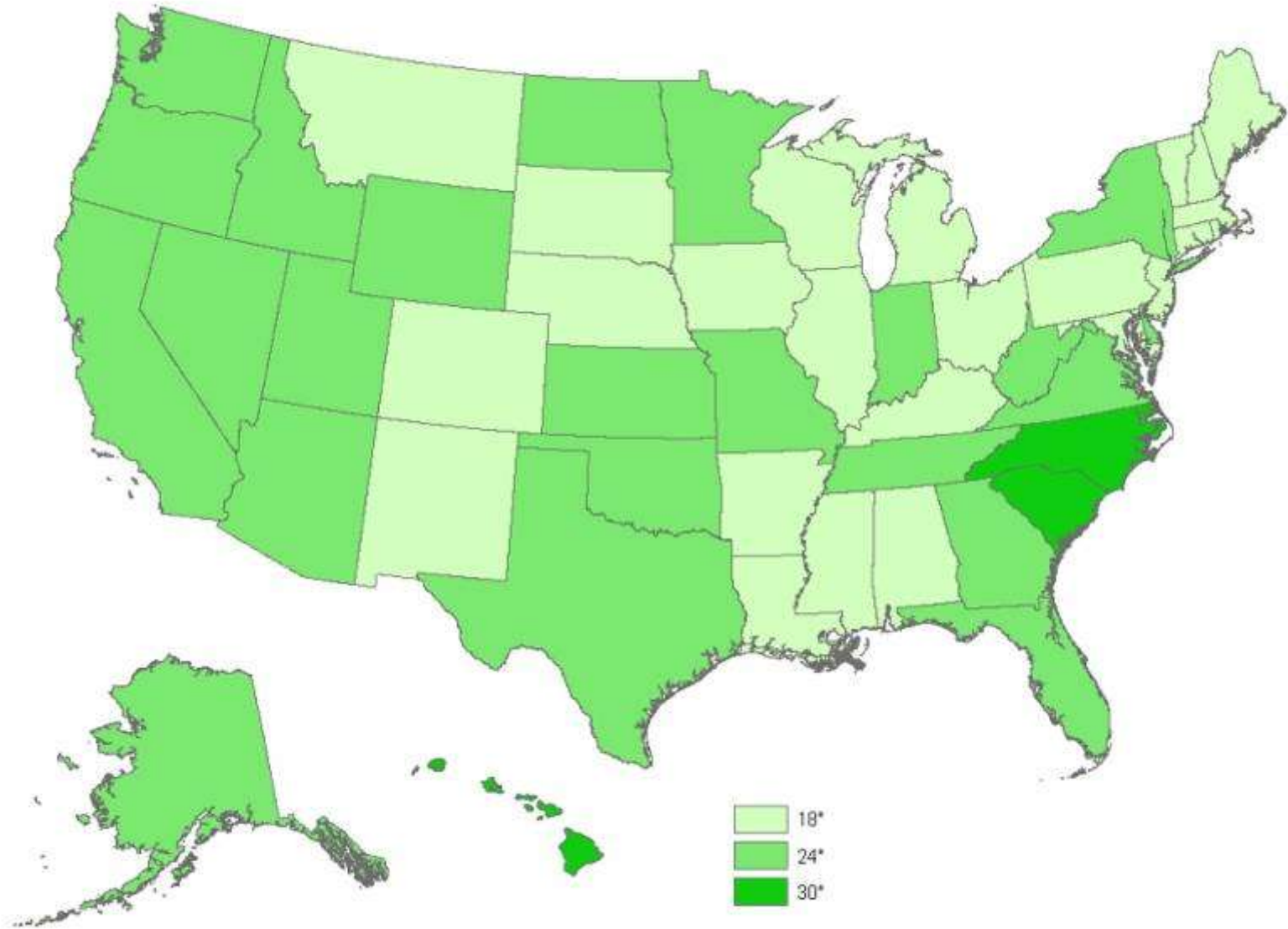
Source: One-Call Systems International Committee of the Common Ground Alliance

# Civil Penalty Provision?



Source: One-Call Systems International Committee of the Common Ground Alliance

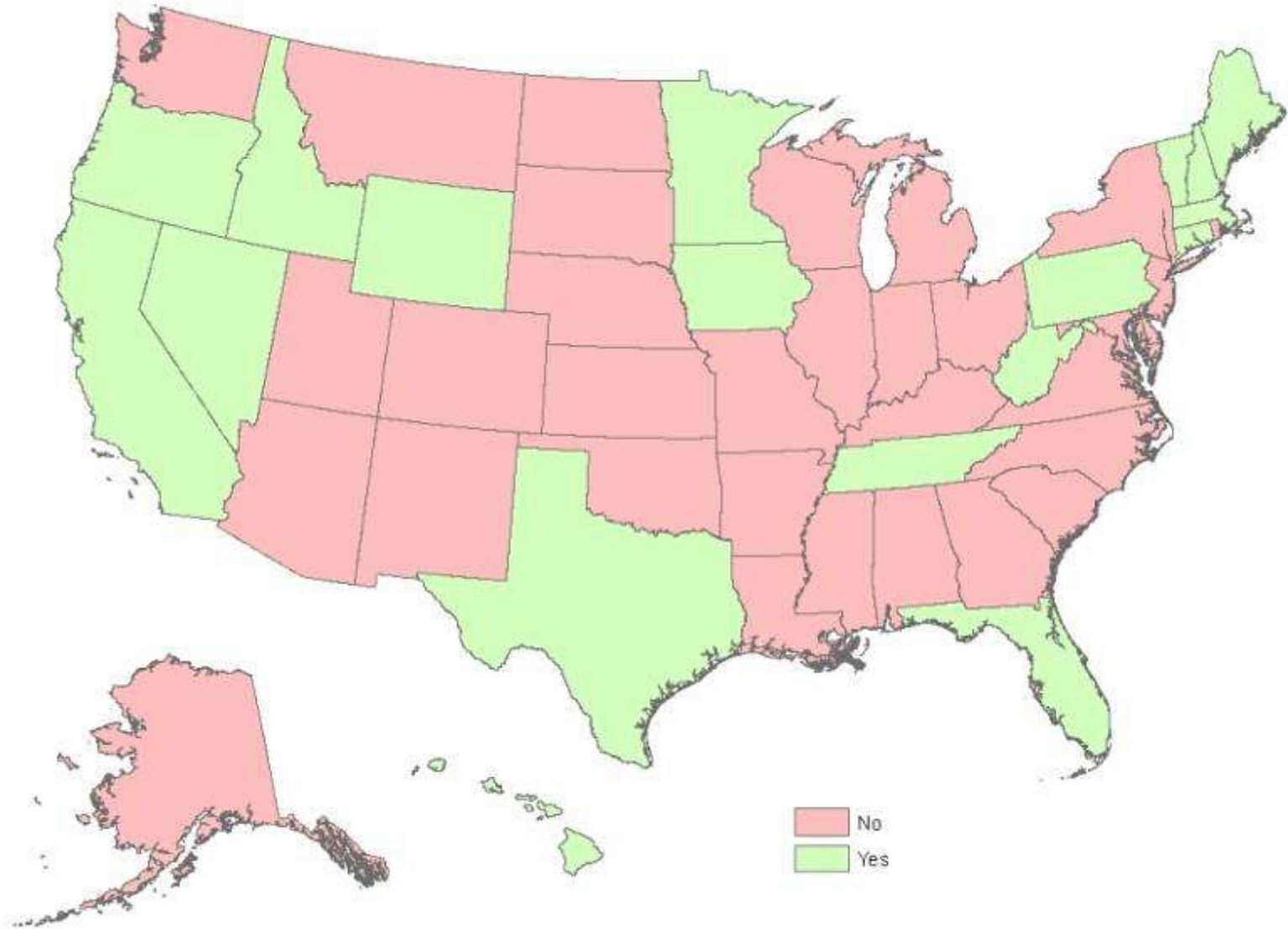
# Tolerance Zones



Source: One-Call Systems International Committee of the Common Ground Alliance

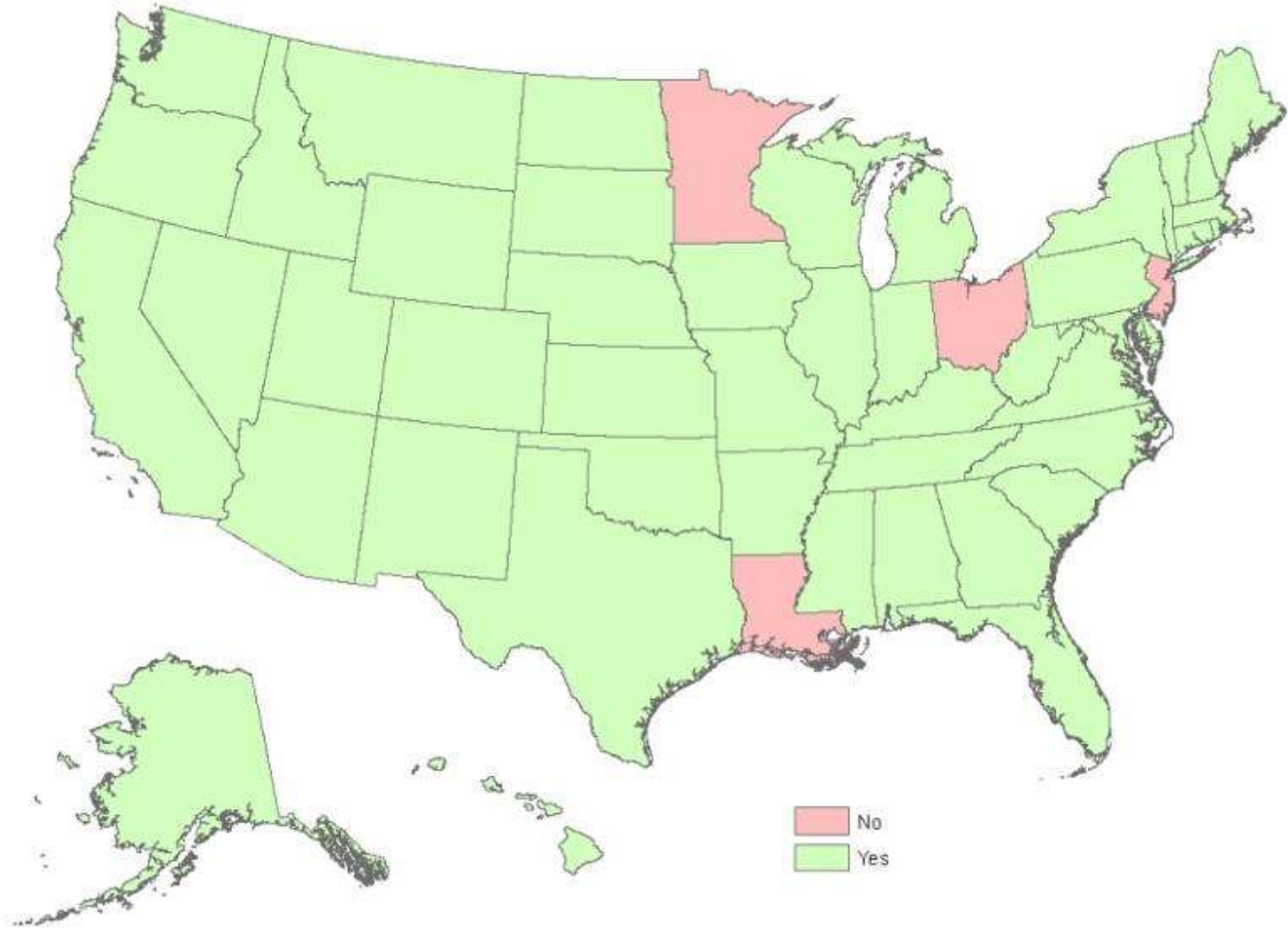


# Mandatory Premark?



Source: One-Call Systems International Committee of the Common Ground Alliance

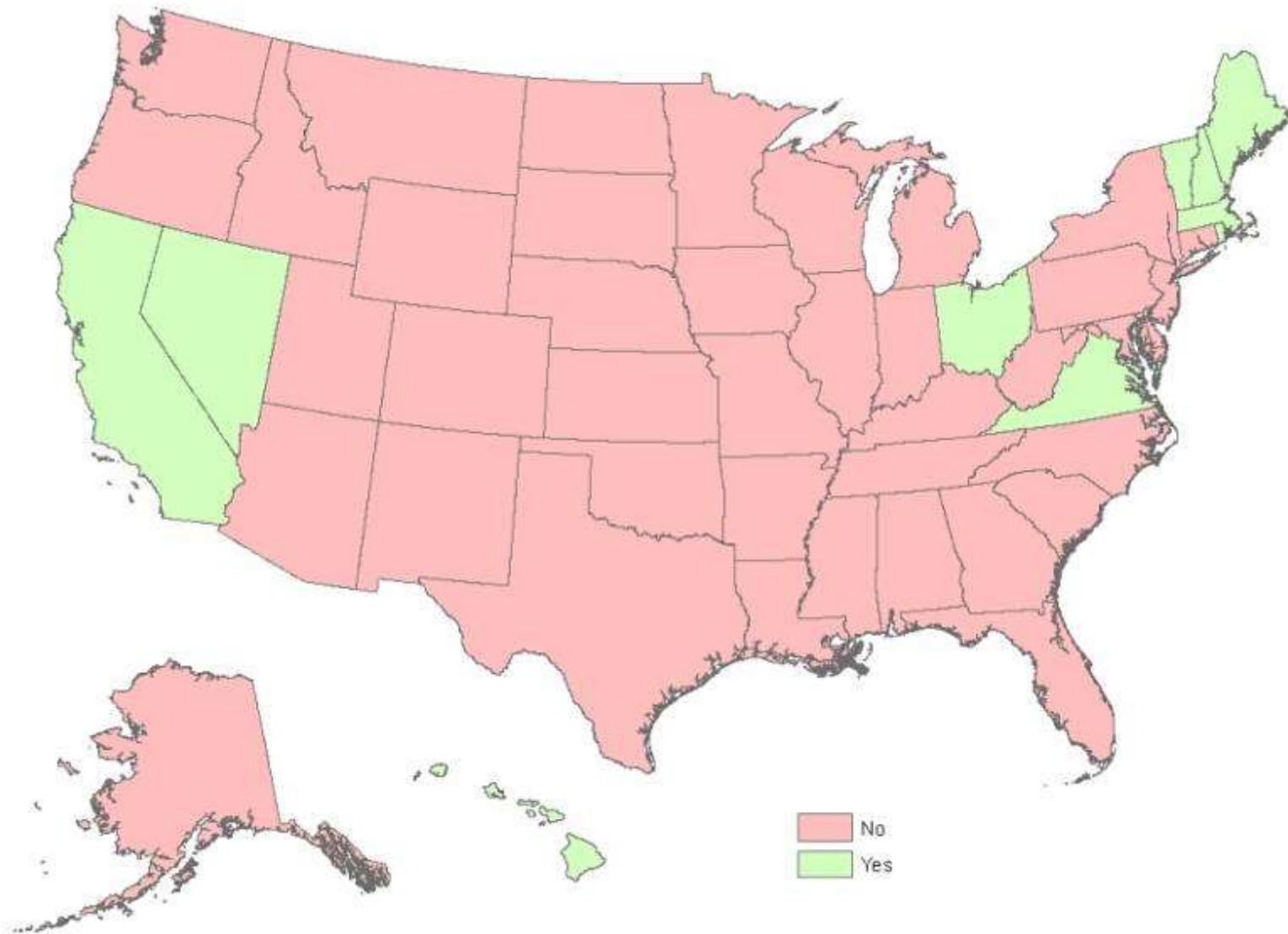
# Emergency Clause?



Source: One-Call Systems International Committee of the Common Ground Alliance

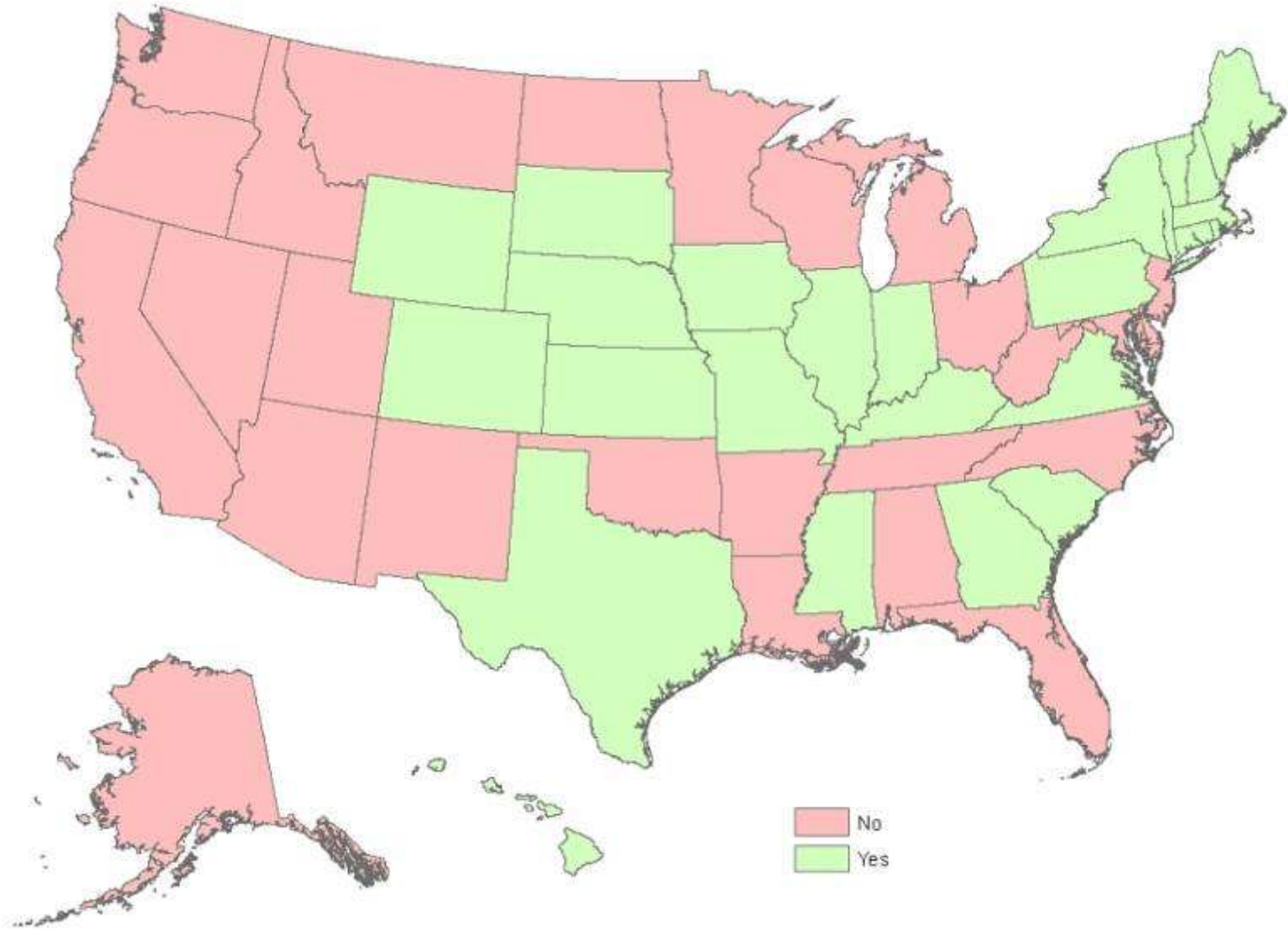


# Excavator Permit Issued?



Source: One-Call Systems International Committee of the Common Ground Alliance

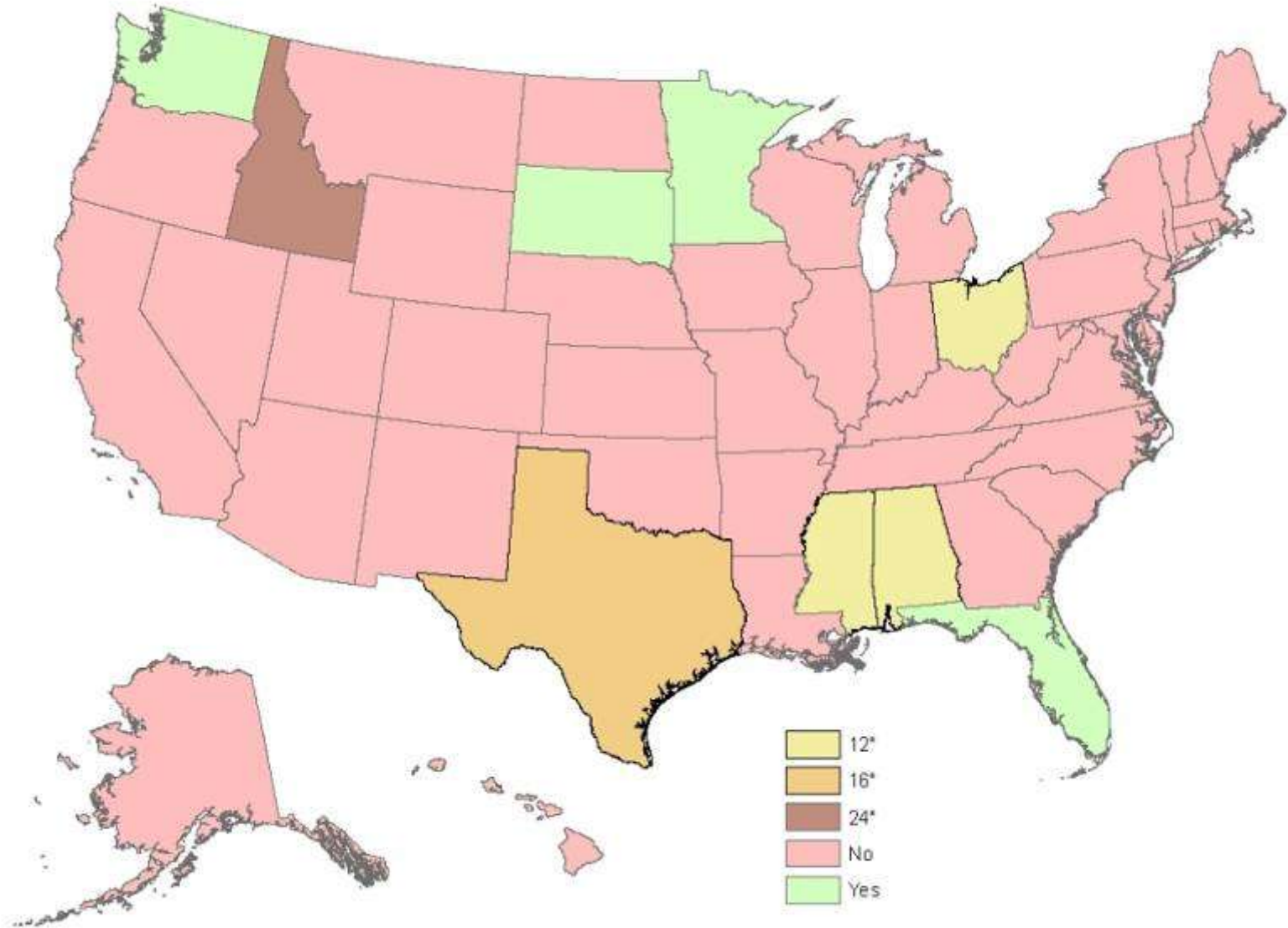
# Damage Reporting Required?



Source: One-Call Systems International Committee of the Common Ground Alliance

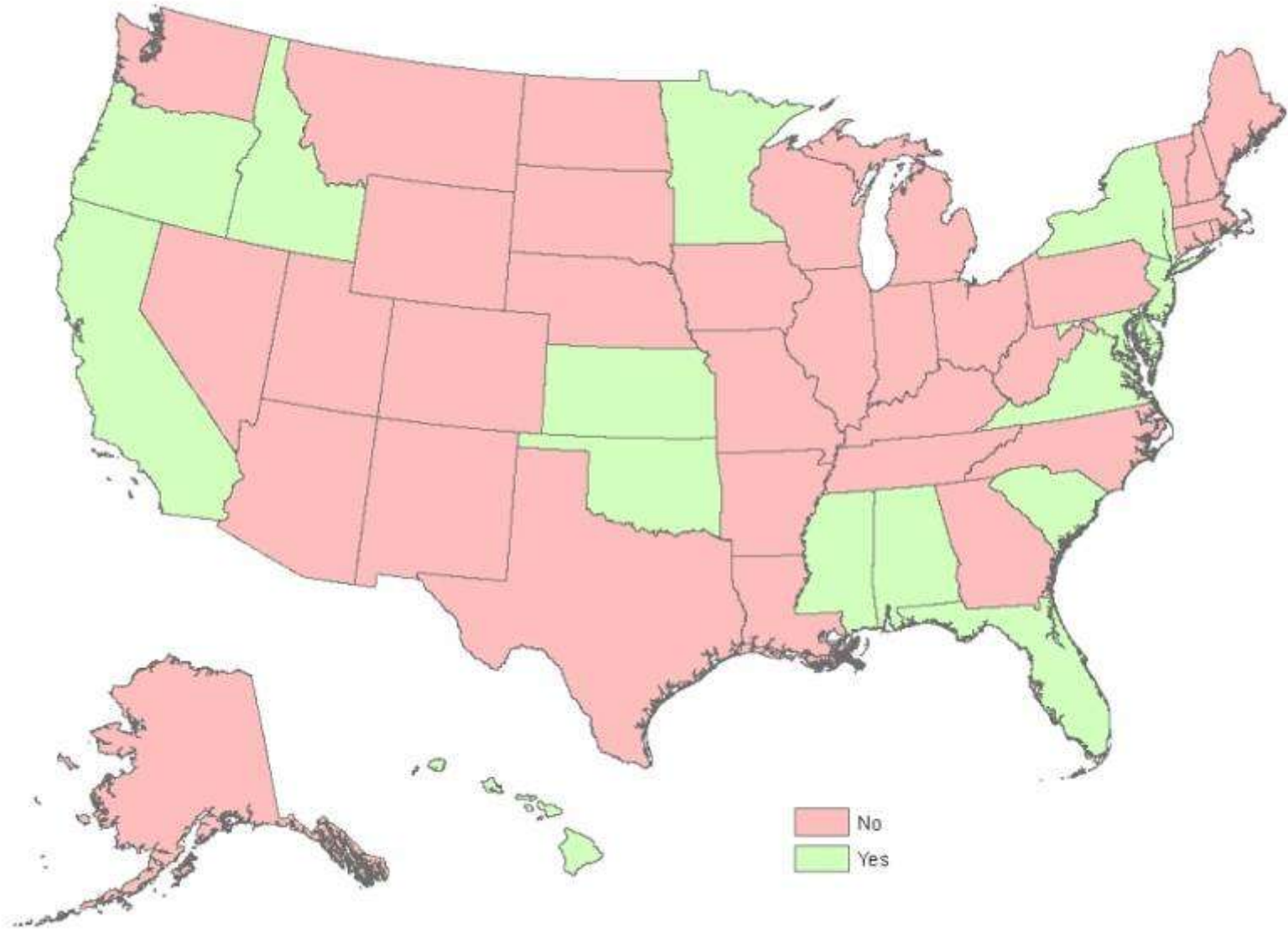


# Depth Exemption?



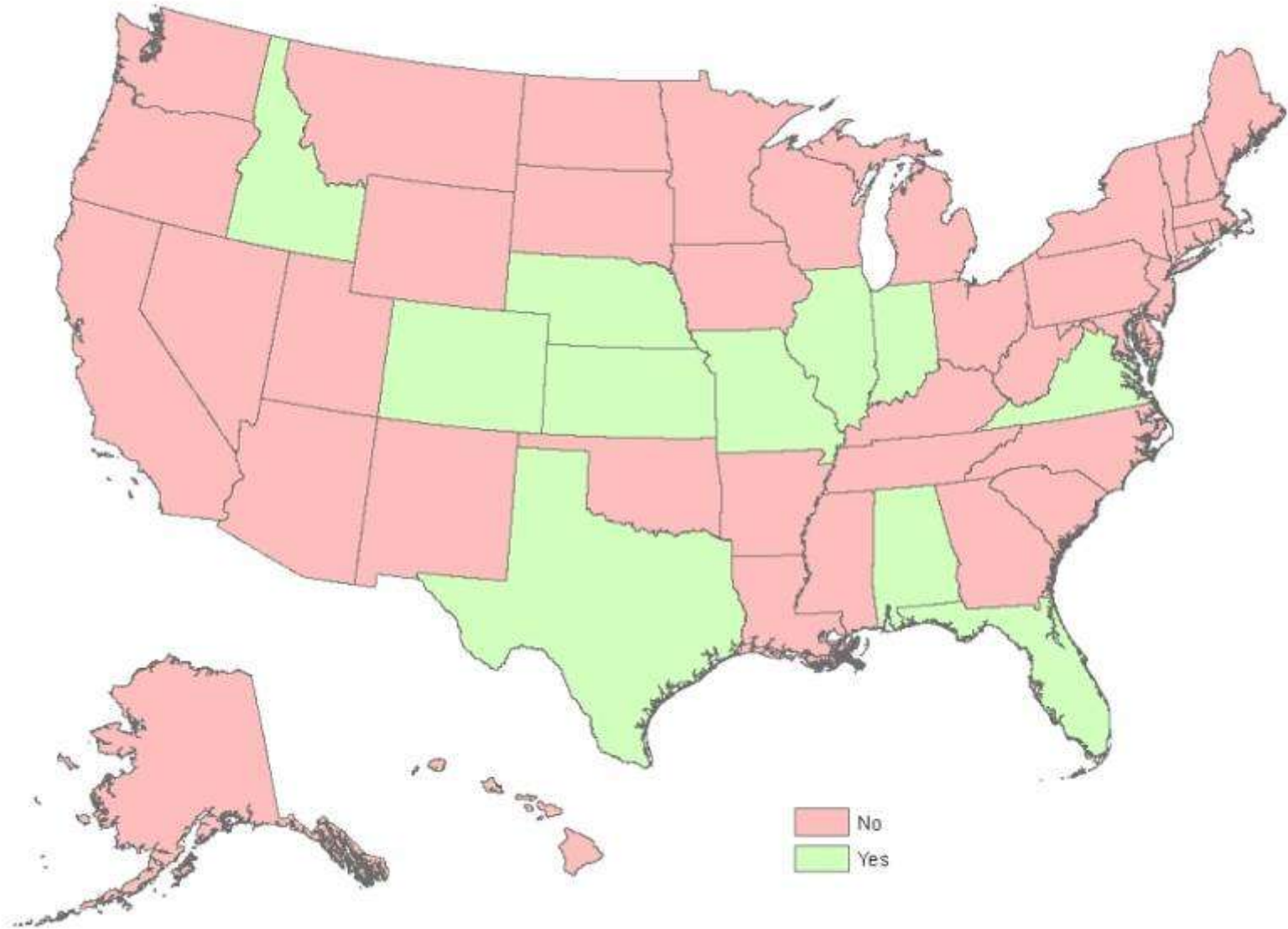
Source: One-Call Systems International Committee of the Common Ground Alliance

# Homeowner Exemption?



Source: One-Call Systems International Committee of the Common Ground Alliance

# Railroad Exemption?



Source: One-Call Systems International Committee of the Common Ground Alliance





# Guiding Principles of the DPAP: The Nine Elements


*Defined in the PIPES Act of 2006*

- 1. Effective communication between operators and excavators from excavation notification to completion of excavation**
- 2. Fostering support and partnership of all stakeholders**
- 3. Operators' use of performance measures for locators**
- 4. Partnership in employee training**
- 5. Partnership in public education**
- 6. A dispute resolution process that defines the enforcement agency as a partner and facilitator**
- 7. Fair and consistent enforcement of the law**
- 8. Use of technology to improve the locating process**
- 9. Data analysis to continually improve program effectiveness**





# Origins of the Nine Elements

- Initially developed through a study of Integrity Management for Gas Distribution Pipelines (DIMP)  
[http://www.cycla.com/opsiswc/docs/S8/P0068/DIMP\\_Phase1Report\\_Final.pdf](http://www.cycla.com/opsiswc/docs/S8/P0068/DIMP_Phase1Report_Final.pdf)
- AGA, AGC, AOPL, INGAA, and NUCA established the Excavation Damage Prevention Initiative (EDPI) to develop consensus on the nine elements: "Guide to the 9 Elements"  
[http://www.commongroundalliance.com/Content/ContentGroups/General\\_CGA/EDP  
I\\_GuideTo9Elements\\_CGAWebVersion.pdf](http://www.commongroundalliance.com/Content/ContentGroups/General_CGA/EDP%20I_GuideTo9Elements_CGAWebVersion.pdf)
- NAPSR developed the Suggested Criteria For Meeting the 9 Elements Of An Effective Damage Prevention Program 
- PHMSA developed the Damage Prevention Assistance Program (DPAP) Guide





## Damage Prevention Assistance Program (DPAP): *Strengthening State Damage Prevention Programs*

*...ensuring the safe, reliable, and environmentally sound operation of the Nation's pipeline transportation system*



<http://primis.phmsa.dot.gov/comm/publications/DPAP-Guide-FirstEdition-20080911.pdf>

1<sup>st</sup> Edition  
September 2008



Know what's below.  
Call before you dig.



# 1 – Effective Communications

- “Participation by operators, excavators, and other stakeholders in the development and implementation of methods for establishing and maintaining effective communications between stakeholders from receipt of an excavation notification until successful completion of the excavation, as appropriate.” Examples:
  - Call before you dig process, locate ticket process, positive response process, ticket status process
- Communication within the state can be evaluated to identify existing communication pathways, processes and methods, technologies, barriers, and other areas where improvements may be needed





## 2 – Comprehensive Stakeholder Support

- “A process for fostering and ensuring the support and partnership of stakeholders, including excavators, operators, locators, designers, and local government in all phases of the program.” Issues:
  - Documentation of a process for fostering partnership in all phases of the program
  - Issues of trust and fairness must be recognized, understood, and fairly resolved
  - Transparency in the process is important
  - How well and equitably rules and procedures are established and followed, how diverse perspectives are considered, and how equitably disputes are resolved can affect the durability of partnership





## 3 – Operator Internal Performance Measurement for Locators

- “A process for reviewing the adequacy of a pipeline operator’s internal performance measures regarding persons performing locating services and quality assurance programs.” Examples:
  - Establish minimum training and qualification requirements for persons performing locating services
  - Monitor and evaluate performance of locators against solid performance metrics
  - Establish feedback mechanisms to inform locators of their performance
  - Establish requirements for resolution of locator performance issues, such as re-training, evaluation of process change, etc.





## 4 – Partnership in Employee Training

- “Participation by [all] stakeholders in the development and implementation of effective employee training programs to ensure that operators, the one-call center, the enforcing agency, and excavators have partnered to design and implement training for the employees of operators, excavators, and locators.” Examples:
  - Establish a training committee of stakeholders to discuss and evaluate training needs
  - One-call centers provide training in the one-call process to locators, excavators and other stakeholders
  - Operators, locators, excavators, and regulators assist by identifying one-call process problems
  - Target training to address data trends





## 5 – Partnership in Public Education

- “A process for fostering and ensuring active participation by all stakeholders in public education for damage prevention activities.” Examples:
  - Stakeholders combine efforts and resources (economies of scale)
  - Use a committee of stakeholders to evaluate and recommend educational methods and materials
  - Train and use field representatives (operators, locators, excavators) to provide education and awareness anytime an opportunity is presented
  - Monitor and evaluate public education programs to ensure they are effective and identify necessary improvements





## 6 – Dispute Resolution

- “A process for resolving disputes that defines the State authority’s role as a partner and facilitator to resolve issues.”
- It is best if enforcement and resolution of disputes is seen as fair to all stakeholders. Example:
  - Enforcement of damage prevention laws and resolution of disputes through a balanced committee of stakeholders
  - Committee recommendations are considered by the enforcement agency
  - In these cases, the enforcement agency can be seen as a partner and facilitator in issue resolution





## 7 – Enforcement

- “Enforcement of State damage prevention laws and regulations for all aspects of the damage prevention process, including public education, and the use of civil penalties for violations assessable by the appropriate State authority.” Examples:
  - A state agency is established through law as the authority for enforcement
  - Enforcement is effective, consistent, fair, accountable, transparent, and includes the assessment of civil penalties and other measures, as appropriate, for violations
  - Many characteristics of good enforcement programs are noted in the CGA Best Practices





## 8 – Technology

- “A process for fostering and promoting the use, by all appropriate stakeholders, of improving technologies that may enhance communications, underground pipeline locating capability, and gathering and analyzing information about the accuracy and effectiveness of locating programs.”
- Purpose is to evaluate available technologies to determine where they could be feasible and would provide effective improvements in the damage prevention process.
- MANY examples of improving technologies, including developments in hardware, software, and processes.





## 9 – Damage Prevention Program Review

- “A process for review and analysis of the effectiveness of each program element, including a means for implementing improvements identified by such program reviews.” Examples:
  - Identify, collect, and analyze program data for each of the nine elements - as appropriate - on a regular basis
  - As appropriate, ensure the required confidentiality of data
  - Develop a data review process and improvement recommendation process with a broad stakeholder group





# Characterizing State DP Programs

- **Maps help to demonstrate the variability that exists in state damage prevention laws**
- **PHMSA has begun an effort to characterize state DP programs' implementation of the nine elements**
- **PHMSA needs clear documentation of state programs to explain funding decisions and to show progress over time**
- **One size does NOT fit all**
- **Characterizing state damage prevention programs compared to the nine elements, NOT compared to each other**
  - **UNDER DEVELOPMENT: A “Characterization Tool” based on CGA best practices, recommendations from NAPSR, the DIMP Phase I report, and PHMSA staff input**
- **Documenting strengths and weakness (aspects of the programs that work well and areas that need improvement – relative to the nine elements)**





# State Damage Prevention Grants

- **Eligibility:**
  - Any State authority (including a municipality with respect to intrastate gas pipeline transportation) that is or will be responsible for preventing damage to underground pipeline facilities as long as the State participates in the oversight of pipeline transportation pursuant to an annual 49 U.S.C. §60105 certification or 49 U.S.C. §60106 agreement in effect with PHMSA
  - Written designation by the Governor
- **Funding:**
  - \$1.5M annual budget, \$100K maximum award
- **Calendar year cycle (award by January, complete by December of same year)**
- **Competitive program**



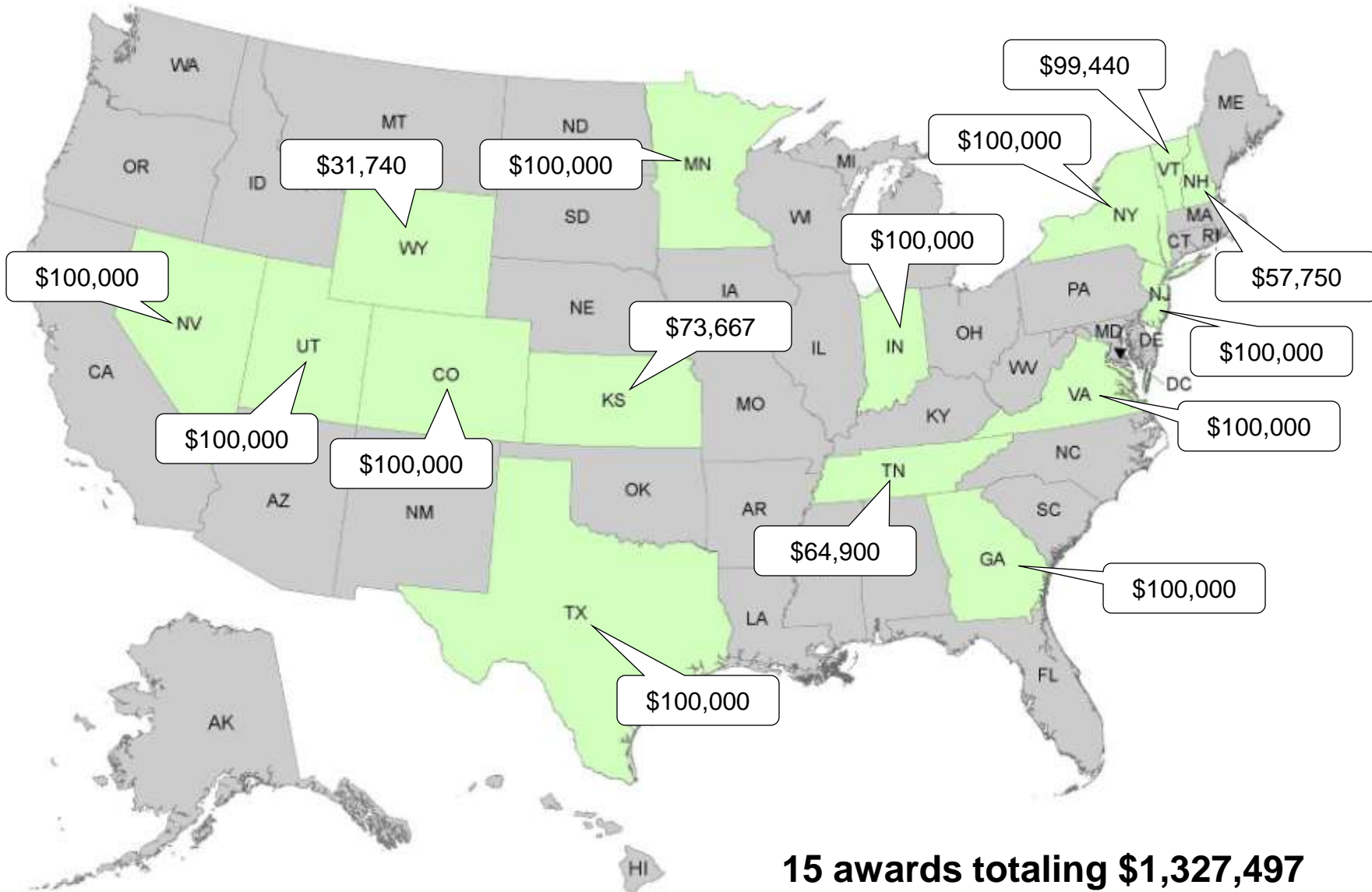


# Review Committee (11 Members)

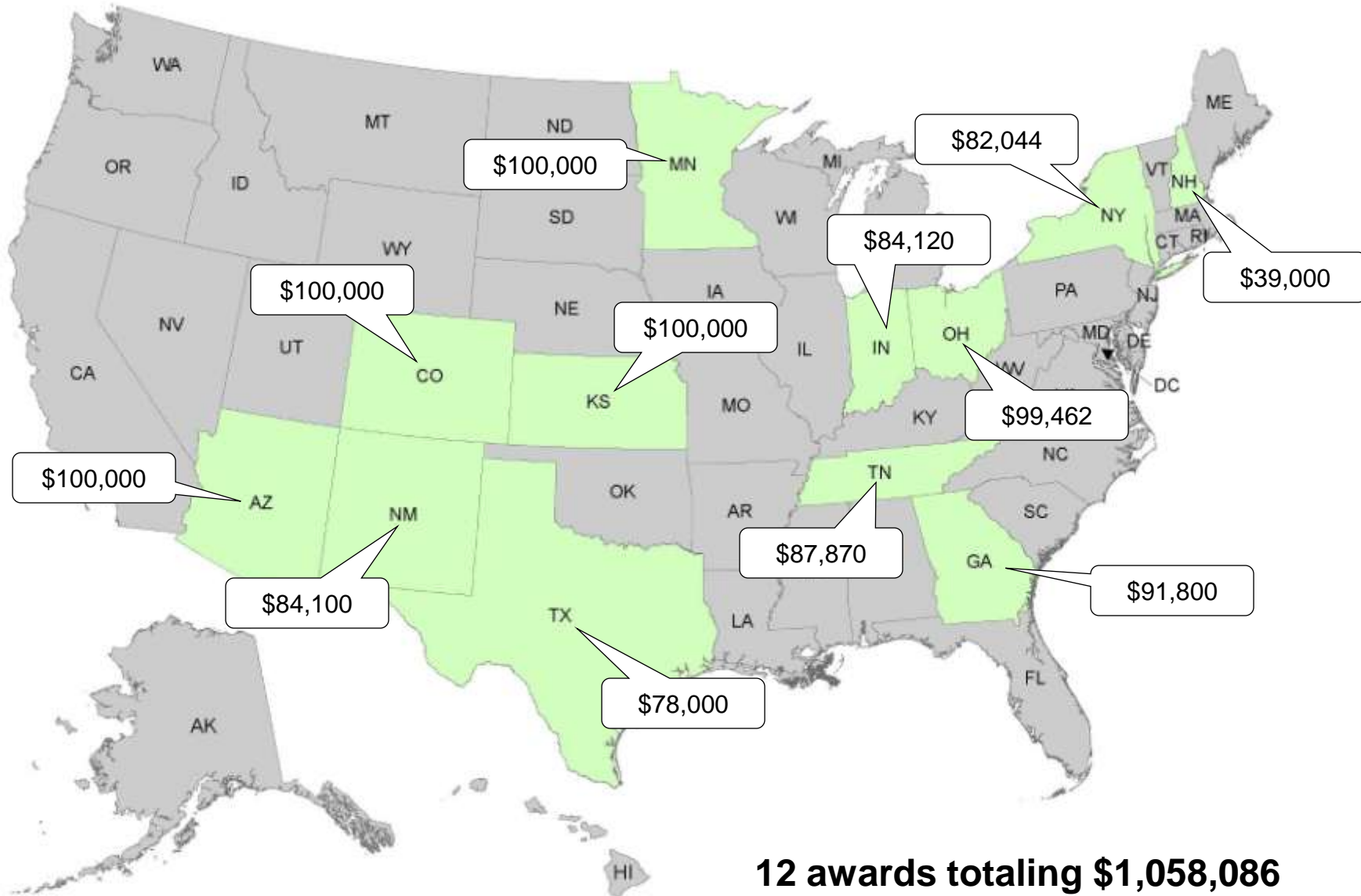
- **Two representatives of NAPSR**
- **Two representatives of excavators; one from AGC and one from NUCA**
- **Two representatives of State one call centers**
- **One representative of AGA**
- **One representative of INGAA**
- **One representative of AOPL**
- **One PHMSA CATS Manager**
- **One representative of PHMSA State Programs**



# CY 2008 SDP Grant Recipients



# CY 2009 SDP Grant Recipients





# Calendar Year 2010 SDP Grants

- **Third year of grant program**
- **Approximately \$2.1 million available because of carryover from 2008 and 2009**
- **Evaluations based on new set of criteria; some similar to 2008/2009, some different**
- **Solicitation for applications closed September 8, 2009**
- **Awards final by December 2009**
- **Period of performance 1/1/2010 – 12/31/2010**





# Past SDP Grant Project Information

- General summaries of 2008 and 2009 grants available at <http://primis.phmsa.dot.gov/comm/DamagePreventionGrantsToStates.htm>
- PHMSA recognizes that information about results and outcomes of grant work can help other states apply for grants and make improvements to their damage prevention programs
- PHMSA working to make results of grants public via a website





# Vermont's 2008 SDP Grant

- Vermont Department of Public Service performed a study of the scope and effectiveness of the underground utility damage prevention system within the state of Vermont
- Result is a detailed analysis of Vermont's current underground facilities damage prevention program (Dig Safe Program) vis-à-vis the Nine Elements
- Contracted work to University of Vermont
- Results available at:  
[http://publicservice.vermont.gov/DigSafe/Vermont Under  
ground Utility Damage Prevention  
Improvement Program070709.pdf](http://publicservice.vermont.gov/DigSafe/Vermont_Underground_Utility_Damage_Prevention_Improvement_Program070709.pdf)
- Grant amount: \$99,440.00





# New Hampshire's SDP Grants

- **2008**: New Hampshire Public Utilities Commission designed and implemented a computer-based system that tracks, measures, analyzes and reports the overall effectiveness of Damage Prevention Training Programs (\$57,750)
- **2009**: New Hampshire Public Utilities Commission will foster increased municipal membership in the Dig Safe one-call in an effort to assist towns with reducing impacts to underground municipal facilities (\$39,000)





# Thank You

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<http://primis.phmsa.dot.gov/comm/DamagePrevention.htm>



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