

E-GOVERNANCE AS A DATA SOURCE FOR EVALUATING STAKEHOLDER POSITIONS ON HYDRAULIC FRACTURING REGULATION

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PSU Shale Network Workshop

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MOTIVATION

- To give an overview of e-governance and its role in hydraulic fracturing (HF) governance
- To present brief case study of 2015 Bureau of Land Management (BLM) HF rule
- To introduce seed grant project on comment analytic tools

WHAT IS E-GOVERNANCE?

- The use of information technology tools to deliver government services
- Within the US, e-governance initiatives were heavily championed by the Clinton Administration as an effort to make governing **more participatory and transparent**
- One such initiative was the development of online tools/databases to gather **public comments** during **rulemaking processes**

Make a difference. Submit your comments and let your voice be heard.

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Comments Due Soon

Today (8)
Next 3 Days (42)
Next 7 Days (183)
Next 15 Days (337)
Next 30 Days (679)
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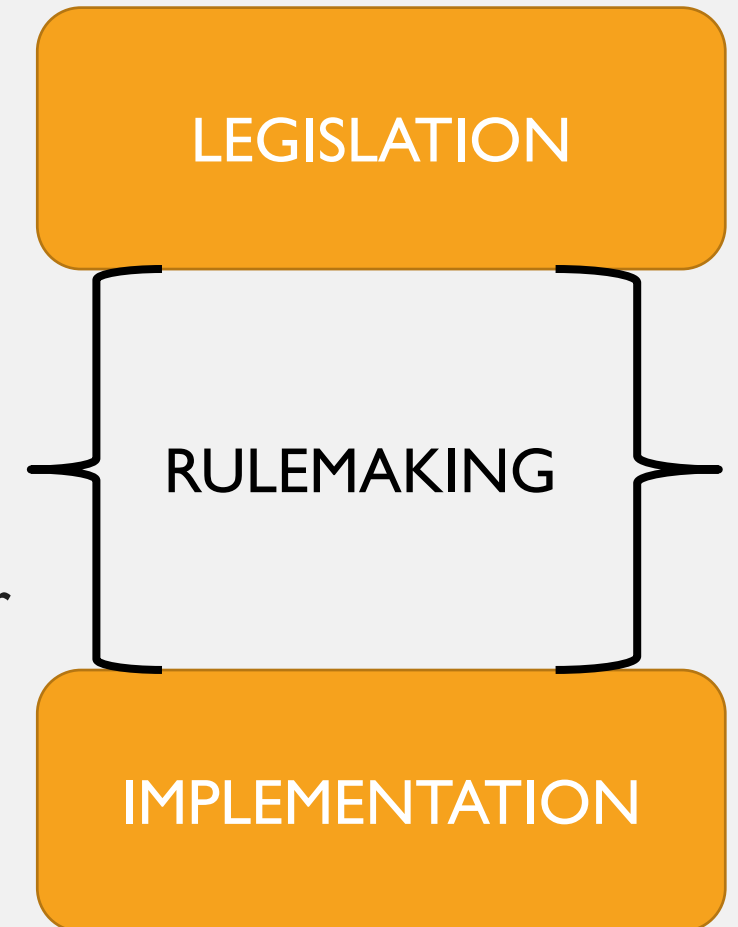


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WHAT IS RULEMAKING?

- Rulemaking is the “crucial intermediate process” between passing a legislative action and implementing a law/statute/regulation (Kerwin & Furlong, 2014: pg. 2)
- Rules are the interpretation and execution of laws/statutes by designated agencies
- Rulemaking process believed to provide greater opportunities for public participation than legislative process

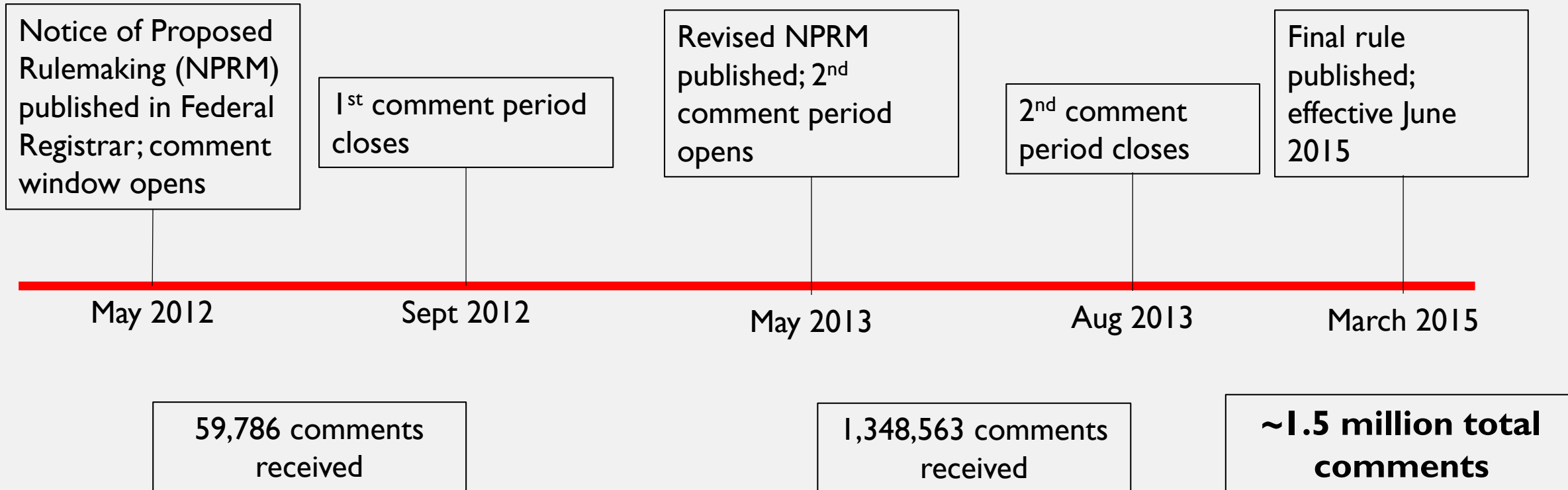


BUREAU OF LAND MANAGEMENT (BLM) HF RULE

- In 2012, BLM initiated a rulemaking process to regulate certain aspects of HF on federal and tribal lands
 - First update to drilling regulations in 30 years
- Rule attempted to regulate:
 1. Well integrity
 2. Flowback/produced water storage
 3. Fluid disclosures
- Federal rulemaking process mandates periods of public comments
- Before the final rule was issued in 2015, the BLM rule underwent two periods of public comments in 2012 and 2013



BLM RULE COMMENTS TIMELINE



RESEARCH QUESTIONS

- Who participated in the rulemaking process?
- What types of evidence did different stakeholders forward to support/oppose the proposed BLM rule?
- What types of evidence were most influential in shaping the rule drafts?
- What types of arguments were most influential in shaping the rule drafts?

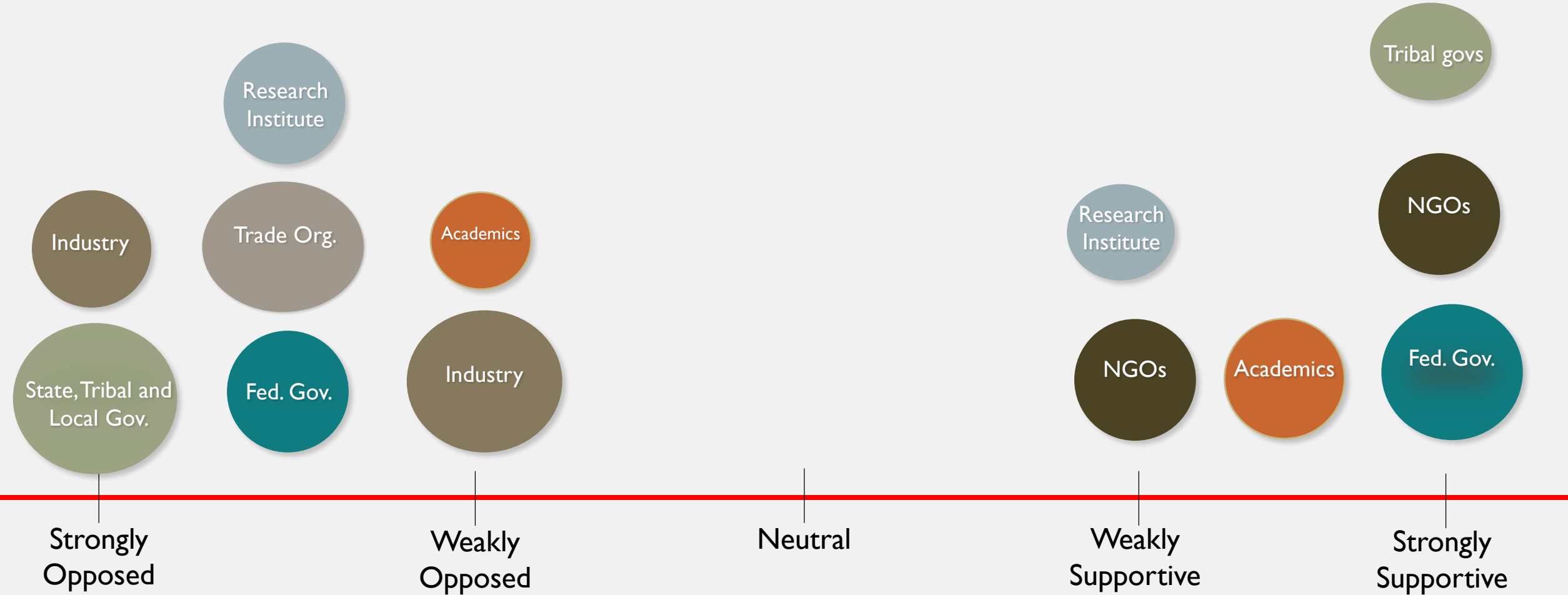
METHODS

1. Content analysis of comments
 - Identify different stakeholder groups and types of comments
2. Discourse analysis of 100 letters filed by individual stakeholders
 - Stratified random sample across comment periods and stakeholder groups
3. Discourse analysis of BLM rule drafts (N=3)

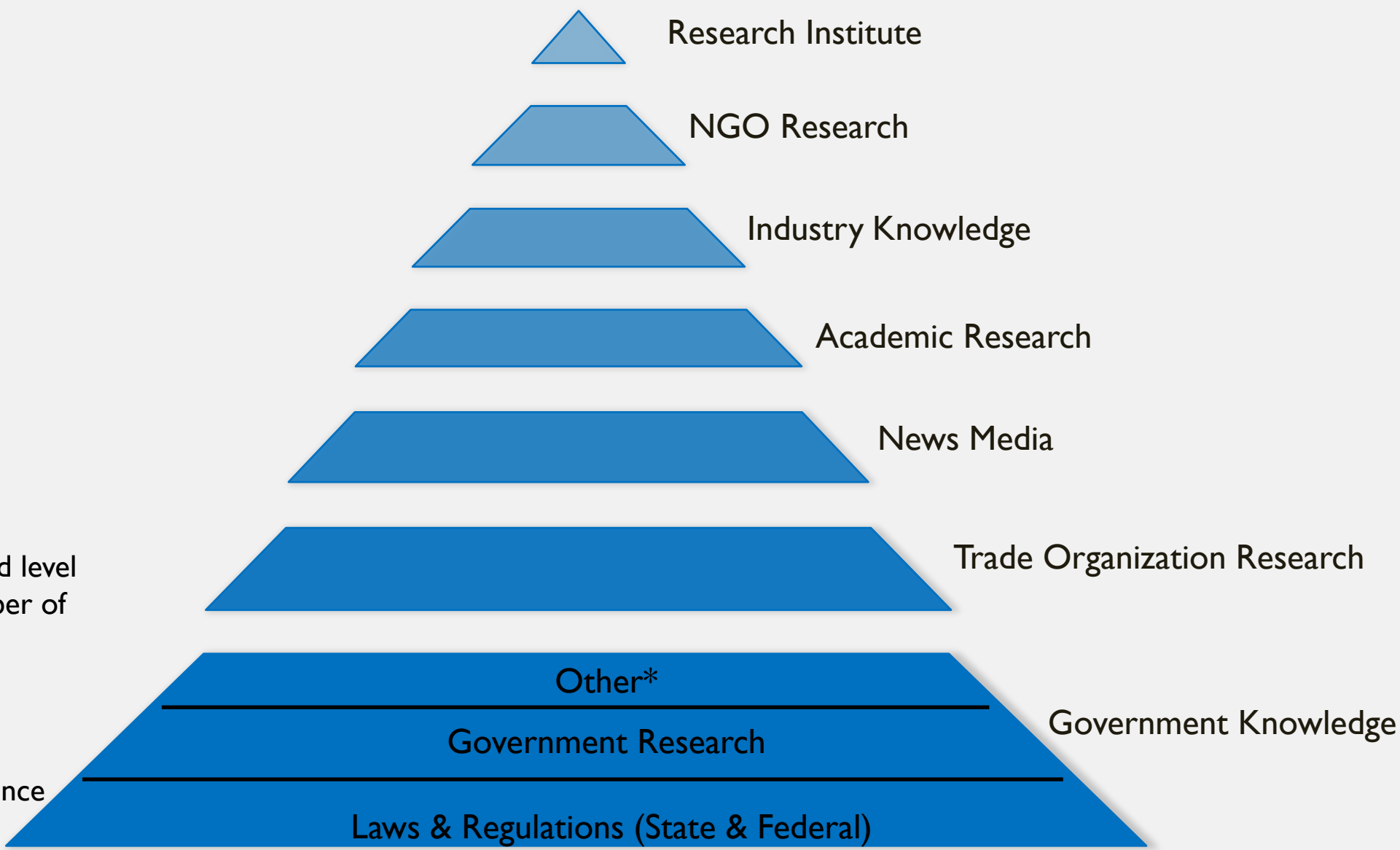
FINDINGS: WHO SUBMITTED COMMENTS?

1. Academia/Research Institutes
2. Advocacy groups
 - NGOs, trade groups, professional associations
3. Government
 - Congress, federal agencies, state and local agencies, tribal governments
4. Industry
 - NAICS Code 211 (Oil and Gas), NAICS Code 213 (Support Services for Oil and Gas), Other (Including Manufacturing)

SENTIMENT ANALYSIS



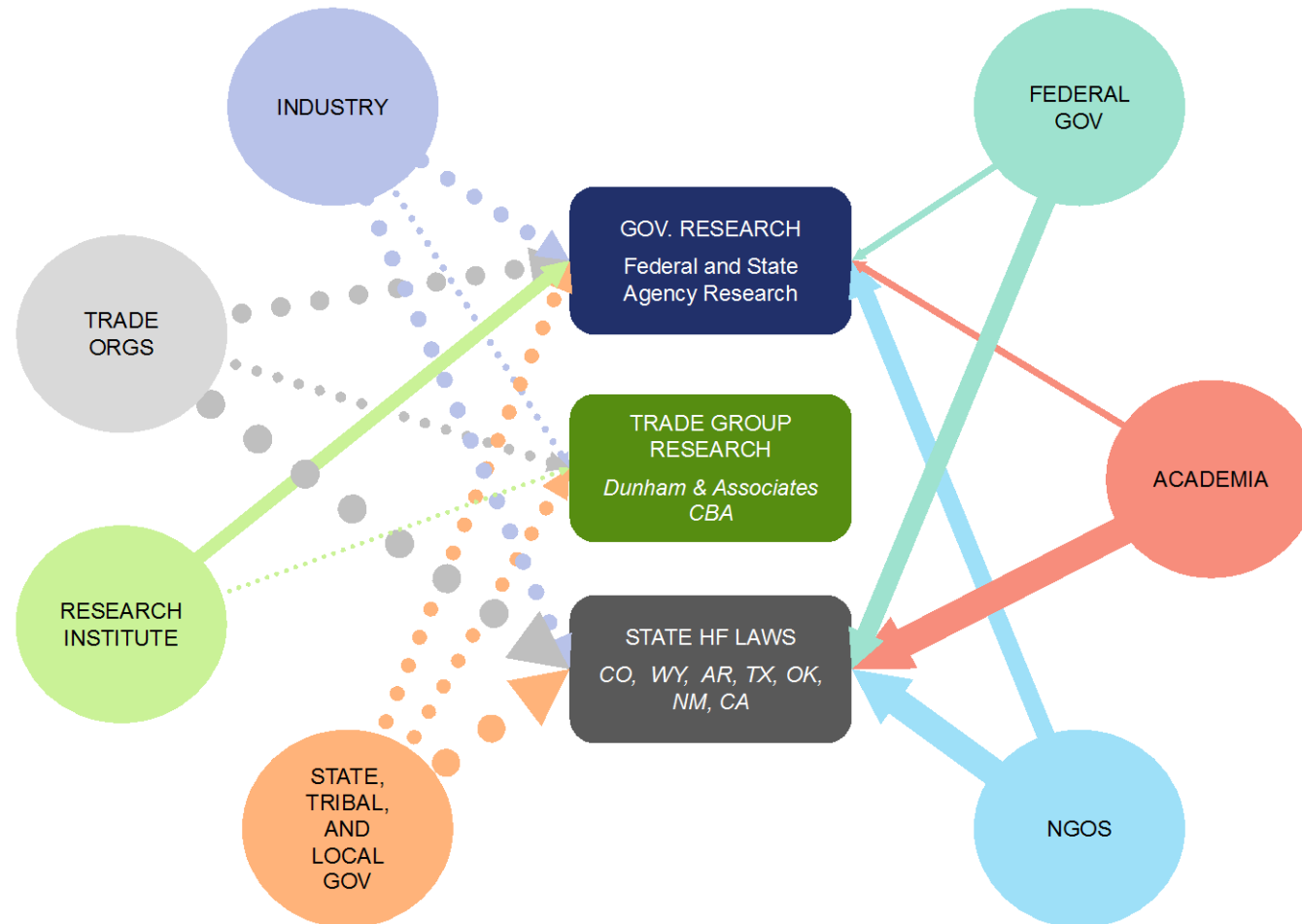
EVIDENCE TYPOLOGY



Notes: Size of pyramid level proportional to number of citations.

* Other includes testimonies, meeting minutes, correspondence between agencies.

EVIDENCE ENGAGEMENT



FINDINGS: KEY ARGUMENTS

1. Impacts of HF contested
2. Federalism
3. Economic impacts

IMPACTS OF HF CONTESTED

INDUSTRY, TRADE GROUPS, STATE GOVERNMENTS

- No evidence of significant accidents or environmental disasters from HF
- Only anecdotal evidence of accidents exist → not credible
- Regulation should not proceed until EPA study is finalized

ENVIRONMENTAL NGOS, CONGRESSMEN, RESEARCH INSTITUTE

- Uncertainty and conflicting information regarding risks of HF
- Should err on side of imposing strict regulations
- Establish a tri-agency task force to evaluate risks → USGS, EPA, DOI

EPA STUDY, DECEMBER 2016

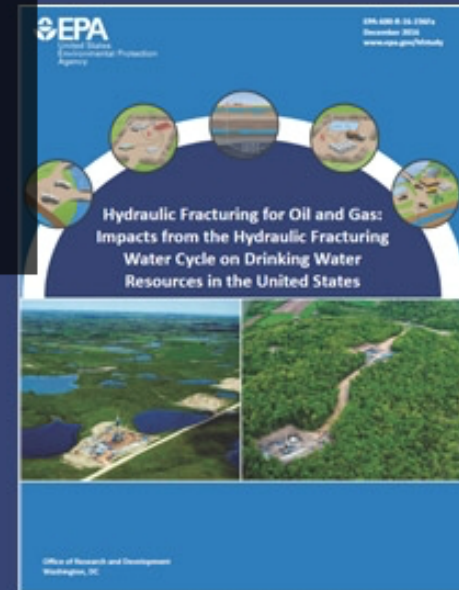
Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States

[Read the final assessment.](#)

1

2

3



“Impacts on drinking water resources associated with the well injection stage of the hydraulic fracturing water cycle have occurred in some instances.”
(Executive Summary, pg. 29)

HOW THE BLM RULE CHANGED

	2012 Draft	2013 Draft	2015 Final Rule
Well integrity	Cement bond logs	(1) Cement evaluation logs; (2) allows for “Type well” approvals	(1) Mechanical integrity tests; (2) monitor annulus pressure
Fluid storage	(1) Pre and post drilling filing of volume of fluid recovered; (2) Store fluids in ponds or above ground tanks	(1) Pre and post drilling filing of volume of fluid recovered; (2) Sought info on costs of pits versus tanks	(1) Pre and post drilling filing of volume of fluid recovered; (2) Fluid storage in above ground tanks with limited exceptions
Fluid disclosures	(1) Post-drilling chemical disclosure; (2) public disclosure format to be decided; (3) trade secret exemptions subject to BLM review	(1) Post-drilling chemical disclosure; (2) public disclosure via FracFocus; (3) Allows companies to submit affidavits asserting exemption from disclosure	(1) Post-drilling chemical disclosure; (2) public disclosure via FracFocus; (3) Allows companies to submit affidavits asserting exemption from disclosure

HOW THE BLM RULE CHANGED

	2012 Draft (initial BLM proposal)	2013 Draft	2015 Final Rule
Well integrity	Cement bond logs	<ul style="list-style-type: none"> • Industry • trade associations • tribal communities 	<ul style="list-style-type: none"> • Industry • trade associations • tribal communities
Fluid storage	<p>(1) Pre and post drilling filing of volume of fluid recovered;</p> <p>(2) Store fluids in ponds or above ground tanks</p>	<ul style="list-style-type: none"> • Civil society • tribal communities • existing state regulations (CA) • Industry • trade associations 	<ul style="list-style-type: none"> • Civil society • tribal communities • existing state regulations (CA)
Fluid disclosures	<p>(1) Post-drilling chemical disclosure; (2) public disclosure format to be decided; (3) trade secret exemptions subject to BLM review</p>	<ul style="list-style-type: none"> • Civil society • Industry • trade associations • Academics • state regulations (CO) 	<ul style="list-style-type: none"> • Civil society • Industry • trade associations • Academics • state regulations (CO)

(PRELIMINARY) CONCLUSIONS

- Industry and civil society concerns both reflected in rulemaking drafts
 - Bolsters arguments that rulemaking provides more opportunities for public participation than other legislative venues
- Study reveals the information gap that might result from significant funding cuts in government sponsored research for HF
- Will triangulate findings through stakeholder interviews this summer

PARALLEL RESEARCH

- Working to develop advanced 'big data' text analysis tools
 - Thanks to an IST seed grant!
- Next frontier is to develop tools that can work on heterogeneous data sets, such as public comments
 - Using the BLM data as a test case to train tools
 - Will test on other HF rulemaking processes at the federal, state and local level at a later date
- Can advance e-governance by providing new tools to decision makers and stakeholders
- Goal is to develop tools that can make e-governance more participatory and transparent
- **We are actively seeking out stakeholders to interview for this project!!**

THANK YOU TO PROJECT COLLABORATORS

- Professor Karen Bakker, University of British Columbia
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- Professor Alan MacEachren, PSU Geography
- Professor Prasenjit Mitra, PSU IST
- Dr. Liping Yang, PSU Geography
- **(soon to be Dr.) Arielle Hesse, PSU Geography**

QUESTIONS?

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