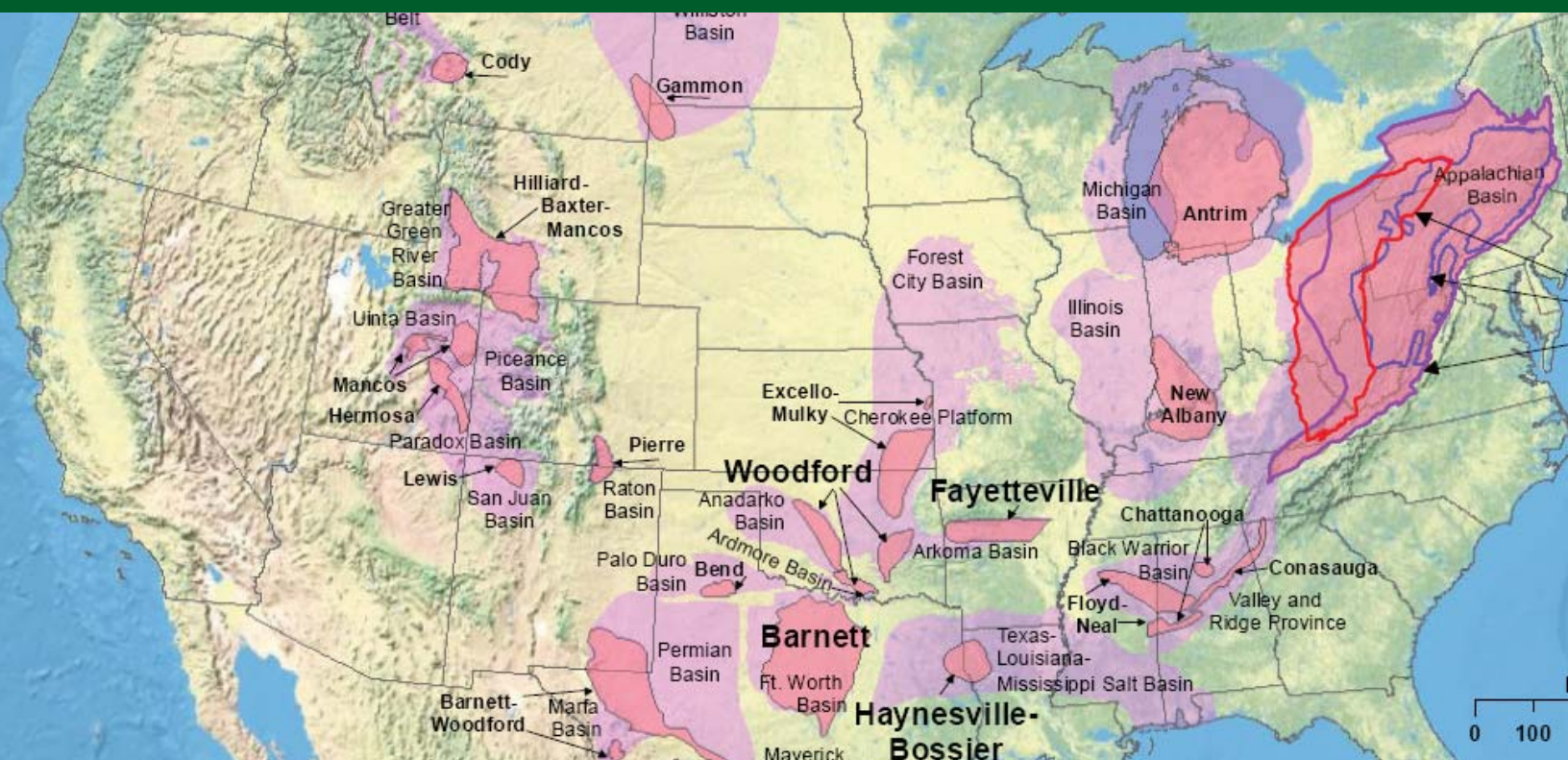




# EXECUTIVE SUMMARY

## MODEL OIL AND GAS LAWS, REGULATIONS AND ORDINANCES





***“Putting the PUBLIC back in public policy since 1963”***

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Thank you for reading our report!

Natural gas should be developed in Arkansas using the best safeguards available to protect landowners, water quality, air quality and public health. Natural gas is an important resource that can be developed responsibly, but Arkansas is full of communities, families and valuable resources that deserve protection. We have some of the highest water quality in the world, attracting people from far and wide to Arkansas lakes, rivers and communities.

This report looks at how other states with thriving natural gas industries protect their residents. We found that many states and communities enjoy far better safeguards than Arkansas. The findings refute claims by the natural gas industry that improved safeguards for Arkansans will drive them out of business and hurt economic development.

We believe Arkansas communities deserve the best protections available.

There is a way to balance natural gas development with landowner and environmental protection. This report highlights some of the best practices other states use to find that balance. We hope you find it helpful.

For a better Arkansas,

Bill Kopsky, Executive Director  
Arkansas Public Policy Panel

## **Find the full report at [ARPanel.org](http://ARPanel.org)**

***Front cover photos:***

***Top: State of Arkansas, Sattelite image from Google Maps.***

***Bottom: Shale Gas Plays, Lower 48 States. Energy Information Administration, March 10, 2010.***

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This report compares protections for land owners, air quality, water quality and public health from the negative impacts of natural gas development using hydraulic fracturing of shale formations, as used in the Arkansas Fayetteville Shale play. The report finds that many states offer their residents stronger safeguards than those found in Arkansas, with a few notable exceptions.

In each section of this report, we make recommendations for new policies that have been used in other states or localities to strengthen protections for air, land, water and public health. We view the following proposals as the highest priorities for Arkansas to address in the near term:

1. **Surface Owner Rights:** In order to ensure that surface owners are fairly consulted about the course of development and minimization of negative effects, and compensated for damages to their property, we recommend that oil and gas operators be required to:
  - a. Notify surface owners in writing at least 30 days before disturbance of the surface.
  - b. Compensate surface owners for lost income and expenses incurred as a result of inability to use or access land; the value of damaged crops, water supplies or personal property; and the decreased value.
2. **Water:** In order to protect Arkansas' clean water resources, we recommend that:
  - a. The legislature clarify that the Arkansas Pollution Control and Ecology Commission has the authority and duty to make rules that prevent oil and gas operations from polluting the waters of the State, and that the Arkansas Department of Environmental Quality has the authority and duty to enforce such rules, and
  - b. Oil and gas operators be required to conduct water quality and quantity tests before well construction begins, and at least annually while the well is in production, and that the results of all water monitoring tests be made available to the public.
3. **Hydraulic Fracturing:** In order to protect groundwater resources from contamination with chemicals used in drilling and fracturing, we recommend that:
  - a. Intermediate casing be required to protect freshwater, particularly for wells that pass through freshwater that is being used or could be used for drinking water.
  - b. Specific, strong standards for casing and cementing be adopted.
4. **Air:** In order to protect oil and gas field residents from the serious health effects of air pollution, we recommend that Arkansas update its standards for oil and gas exploration and production operations to:
  - a. Require oil and gas developers to implement technology and practices that have been proven cost effective to reduce or eliminate air emissions during the oil and gas exploration and production process, such as requiring green completions for all wells unless not technically or economically feasible, and requiring low- or no-bleed valves on all new, replaced or repaired pneumatic devices.
  - b. Make the entire production system, including separators, compressors, dehydration units and other equipment currently defined as "insignificant" sources of pollution, a part of emissions calculations and the permitting program.
  - c. Lower regulatory thresholds that trigger permit and emission control requirements.
5. **Noise:** To protect against the serious health effects of noise from oil and gas operations, we recommend that Arkansas implement a noise standard of 55 decibels during the day and 45 decibels at night.

6. **Inspections:** In order to ensure that Arkansas laws and regulations to protect clean air, land, water and public health are being implemented, we recommend that:
  - a. Every well should be inspected as often as necessary to ensure compliance with laws and regulations, but at least once per year, with an emphasis on inspecting: 1) New wells prior to being put into production (with an emphasis on ensuring proper cementing and casing); 2) wells while hydraulic fracturing is occurring; 3) wells that have been put into production within the prior year; and 4) wells going into final reclamation.
  - b. Agencies identify the staff required to meet their inspection goals and communicate these needs to legislators in budget requests.
7. **Waste Sites:** To protect against contamination from oil and gas waste sites, we recommend adoption of comprehensive oil and gas site standards similar to those passed in New Mexico, including requiring:
  - a. Use of double liners with leak detection systems in storage and disposal pits.
  - b. Temporary pits to close within six months of completion of drilling.
  - c. Signs, fencing and netting around all pits.
8. **Disclosure:** In order to provide residents with information needed to test their water, and to understand the impacts of oil and gas development and any contamination that does occur, we recommend that the new Arkansas disclosure requirements be updated to require disclosure of:
  - a. Chemical Abstract Service (CAS) numbers, as well as the volume of each substance used.
  - b. Drilling chemicals, as well as those used in the hydraulic fracturing process.
  - c. Initial reports to all local residents with sufficient time in advance of drilling or stimulation to test their wells for contaminants to establish a baseline, in addition to final reports after drilling or stimulation, with chemicals actually used.
- d. The volume and source of water used in the operation, as well as the total amount of fluid used and the amount returned to the surface.
- e. The location of all surface and underground water sources within one mile of the drill site, as well as the location of all fault lines and fissures within one mile of the drill site or injection site.
- f. Protections for proprietary information must be minimized, as established in the federal Emergency Planning and Community Right to Know Act and its implementing regulations.
9. **Financial Assurance:** In order to ensure that oil and gas sites are reclaimed in a timely manner, and that reclamation is paid for by operators and not taxpayers, we recommend that Arkansas' bonding requirements be updated to:
  - a. Increase single well bond amounts to \$10,000 per well and blanket bond amounts to \$250,000 statewide.
  - b. Institute a single well bond equal to the cost of plugging and reclamation for idle wells.
10. **Best Management Practices:** In order to ensure that oil and gas operators use equipment and practices that will prevent and minimize impacts to the environment, we recommend that:
  - a. Oil and gas developers be required to use the Best Management Practices described in the U.S. Bureau of Land Management's *Gold Book*, as well as the American Exploration and Production Council's *Reasonable and Prudent Practices for Stabilization*.
11. **Setbacks:** Because proximity to oil and gas operations often contributes to negative impacts, we recommend that oil and gas wells be set back at least 1,000 feet from habitable dwellings, schools, places of worship, hospitals, water sources and bodies of water.

# INTRODUCTION

As the nation and the world search for cleaner fuel supplies and energy independence, and new technologies and techniques open previously uneconomic natural gas deposits to development, the U.S. natural gas industry has expanded steadily, despite the current recession. In Arkansas, natural gas production from the Fayetteville Shale continues to increase, but the play is seen by some to be at a crossroads as more new shale plays are opened and natural gas developers have more options for investment. As companies balance the risks and returns of various plays, the pace of new drilling in the Fayetteville Shale has slowed, leading some to question whether the Arkansas play will be as productive or profitable as initially projected.<sup>1</sup>

At the same time, new questions and concerns about the effects of natural gas development are being raised. Much of this attention has focused on the controversial industry practice of hydraulic fracturing because of the toxic chemicals and massive quantities of water used, but many other aspects of natural gas development also pose the risk of serious impacts to water, air and land. In the daily operations of drilling sites and waste disposal sites and in the transportation of gas, chemicals and wastes, there is always a potential for leaks, spills and accidents. All phases of development can affect people's health and quality of life, reduce property values, and even adversely affect other industries, including agriculture, recreation and tourism.

Our previous report, *Arkansas In The Balance: Managing the Risks of Shale Natural Gas Development in the Natural State*, looked at some of these threats, using the experience of other natural gas producing states to illustrate the kinds of impacts citizens of Arkansas can expect, with a focus on water quality and quantity. In summary, from the point when land is leased to the end of gas production to well closure and reclamation, the potential for environmental impacts is enormous. Given these threats, it is critical that efforts to promote

development of the Fayetteville Shale be coupled with an equally strong emphasis on protecting the state's people, private property, natural resources and environment.

The role of government agencies is critical, as they plan for development, establish standards, issue permits, establish bond amounts, monitor sites and enforce the law. Because the oil and gas industry has received special exemptions from so many federal environmental standards, including portions of the Clean Air Act; Clean Water Act; Comprehensive Environmental Response, Compensation and Liability Act (toxic site cleanup); and Resource Conservation and Recovery Act (waste management), state agencies are the primary regulators. In Arkansas, the Arkansas Oil and Gas Commission and Arkansas Department of Environmental Quality shoulder the main responsibility for oversight of the natural gas industry.

Local governments can and often do play important roles, as well, in many states. Cities and counties can control where development is allowed to occur, and some local governments enact ordinances that regulate noise and establish other operating conditions.

While no state or local government has a comprehensive program that is lauded by gas field residents as adequately protective in all areas, many states have strengthened protections in some areas. Some of these states updated their policies after years of production in order to mitigate specific impacts; others responded to public concerns early and worked to put new policies in place at the outset. All have had to struggle to create their own protections in the absence of a uniform federal regulatory regime.

In all states, regulatory requirements have changed over time and continue to evolve as the scale, locations, technology and practices in the industry change, along with the people and landscapes surrounding the industry. What was considered common and appropriate practice fifty years, ten years or even one or two years ago may no longer be considered acceptable. Just as production technologies change making formations that were once

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1 Alison Slider, "Fayetteville Shale approaches crossroad," *Arkansas Democrat-Gazette*, 5 September 2010, Business, p. 69.

off limits accessible, new technologies and practices that minimize or eliminate the negative impacts of development become available and affordable, and new information leads to a better understanding of the impacts of development, fostering a new sense of what is and is not acceptable.

These changes prompt evolutions in best management practices, or BMPs, that are recommended on a voluntary basis or incorporated into permits or leases as required conditions of operation. As BMPs become accepted practice, they are more likely to be incorporated into laws or regulations and made mandatory, particularly when they are established as affordable ways to effectively address significant negative impacts, and are embraced by some within the industry itself.

*Arkansas In The Balance* included a partial set of recommendations for protecting the health of Arkansas' citizens by protecting the natural ecosystems and the air, land and water on which we depend. This report builds on our previous recommendations by examining the policies of other oil and natural gas producing states,

profiling model laws, regulations and local ordinances designed to offer these important protections, and making recommendations for reforms to Arkansas' laws and regulations. Many of these policies elevate proven BMPs to mandatory standards.

Fortunately, Arkansas is in a position to learn from the experiences of other states and their successes. As the Fayetteville Shale play slows, our state's citizens, elected officials and regulators have the opportunity to craft a new model for responsible natural gas development. The Arkansas Oil and Gas Commission's new hydraulic fracturing chemical disclosure rules are one step in the right direction, as are the new rules regulating waste pits, but these areas could be stronger and many other issues still need to be addressed. If we continue to plan responsibly and move forward together, we can meet the challenges before us and ensure that the legacy of the Fayetteville Shale is not only one of reaping the benefits of this tremendous energy resource, but also protecting the health and environment and preserving the natural legacy of our state.

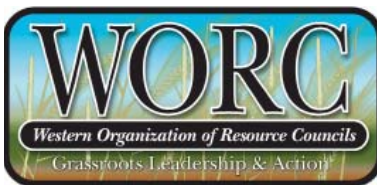
## Commissioned and Released by:

**The Arkansas Public Policy Panel** is a statewide 501(c)(3) organization dedicated to achieving social and economic justice by organizing citizen groups around the state, educating and supporting them to be more effective and powerful, and linking them with one another in coalitions and networks. The Panel seeks to bring balance to the public policy process in Arkansas.

## Report Author:

**Sara Kendall** is the Washington, DC Office Director for the Western Organization of Resource Councils. She holds a degree in environmental studies, and has over 20 years of experience working on natural resource policy. Sara has researched, written and edited many publications, including WORC's *Law and Order in the Oil and Gas Fields*.

Based in Billings, Montana, **WORC** is a regional network of grassroots community organizations in seven western states that include 10,000 members and 45 local chapters. WORC's mission is to advance the vision of a democratic, sustainable, and just society through community action. WORC is committed to building sustainable environmental and economic communities that balance economic growth with the health of people and stewardship of their land, water, and air resources.



Since the 1970s, WORC has worked for and won model coal mine reclamation and natural resource taxation policies, won farm credit reforms, tackled concentration of economic power in the meatpacking and grain trading industries, and fought for hard rock mining reform and responsible oil and natural gas development.

### ***Back cover photo:***

***Well site during active drilling to the Marcellus Shale formation in Upshur County, West Virginia, in 2008.***

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