

Perceptions of Deep Shale Exploration on Allegheny College's Campus

Abigail Dunegan, Dibyajyoti Mukherjee, William Tolliver

Background

Overview

Allegheny College was approached by a leasing company to sign a lease allowing hydraulic fracturing to occur under Allegheny College's Bousson Experimental Forest. On June 27, 2013 the college declined to sign a lease or commit to drill, however, that does not mean the college will never sign a lease to drill. This study analyzes 224 survey responses from students, faculty, and staff at Allegheny College and finds that the community is divided over the issue of hydraulic fracturing with tension existing between the College's responsibility to maintain its "green" sustainability commitment identity and the potential for an economic boost that could benefit college operations.

What is horizontal hydraulic fracturing?

Horizontal hydraulic fracturing is a way to extract natural gas. The most recent advancement is the widespread use of this technology throughout the shale gas region. This is a technique to extract natural gas from shale by injecting fluids and sand into the cracks of the shale, thus forcing them apart making the natural gas and oil easily accessible. This occurs a mile or more and usually after a new oil well has been drilled. Once the vertical drill gets through the shale, it turns horizontally at about 5,000 to 10,000 feet below the ground. Once a horizontal section is drilled, explosives are placed along the section at intervals. After the explosion, sand and fluids are injected at high pressure into the explosion sites, which then releases natural gas.

What is Political Ecology?

Political ecology is a "field of critical research predicated on the assumption that any tug on the strands of the global web of human - environmental linkages reverberate throughout the system as a whole" (Robbins, 2012). Scholars from fields such as anthropology, forestry, development studies, environmental sociology, environmental history and geography investigate human-environment issues using political ecology as a guiding framework.

Methods

We used an online survey distributed via email and Facebook to survey 220 members of the Allegheny College community including 42 percent of the faculty and about 7 percent of the student body. The survey was conducted between March, 27, 2013 and April, 15, 2013.

Survey Questions:

- What department(s) are you affiliated with?
- Are you a (please check one): Student Faculty Staff
- Do you support deep shale exploration/hydraulic fracturing in the United States?
Yes No Undecided
- What is the single biggest factor influencing your opinion?
- Do you think Allegheny should proceed with deep shale gas exploration in the Bousson Reserve?
Yes No Undecided
- What is the single biggest factor influencing your opinion?

Results

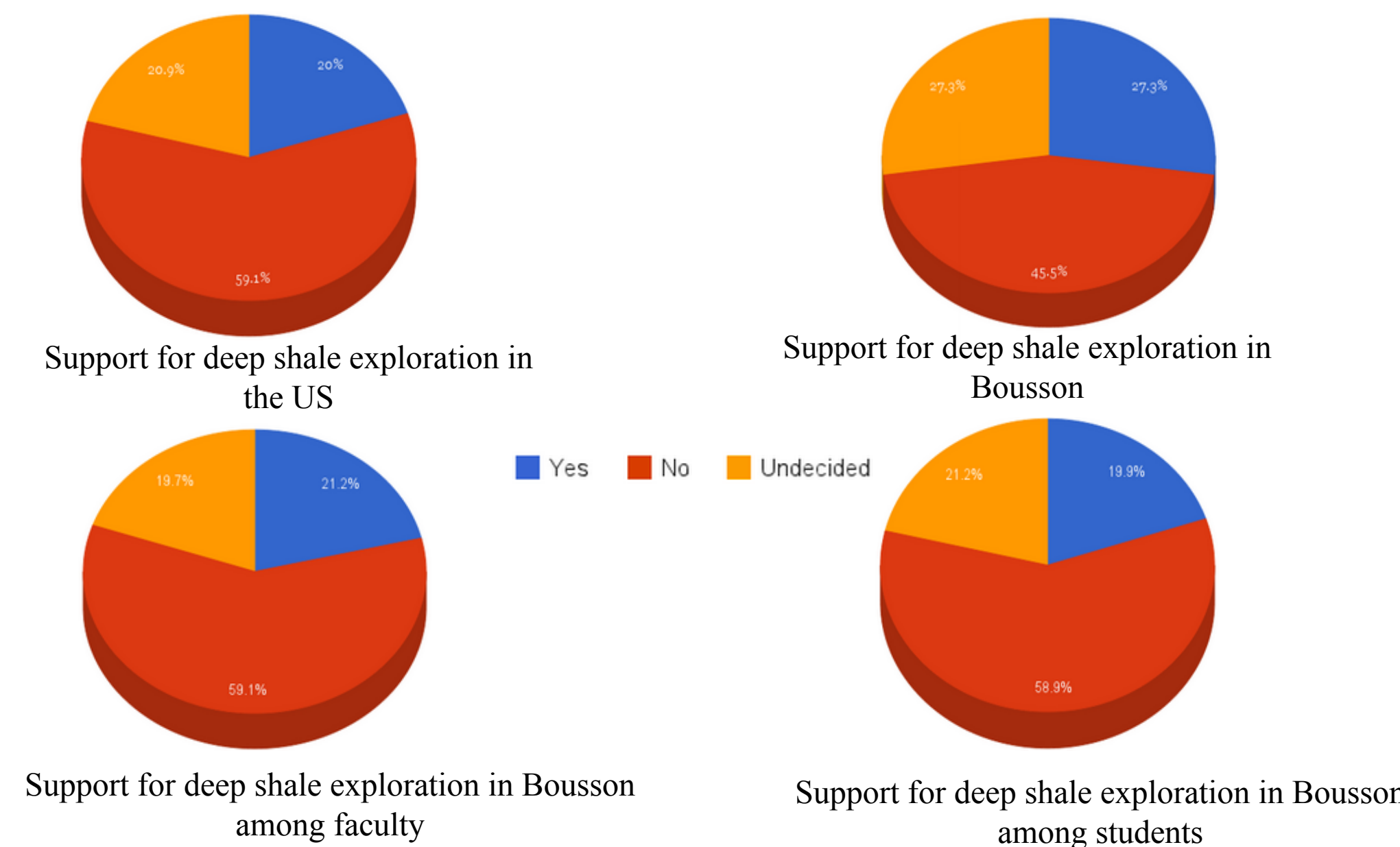
Table 1: Breakdown of respondents by (a) position in college, and (b) by department

Category	Number of Respondents	Department	Number of Respondents
Student	146	Environmental Sc.	48
Faculty	66	Psychology	24
Staff	6	Biology	22
Did not mention	2	English	16
		Political Sc.	16
		Economics	15
		Other departments	79

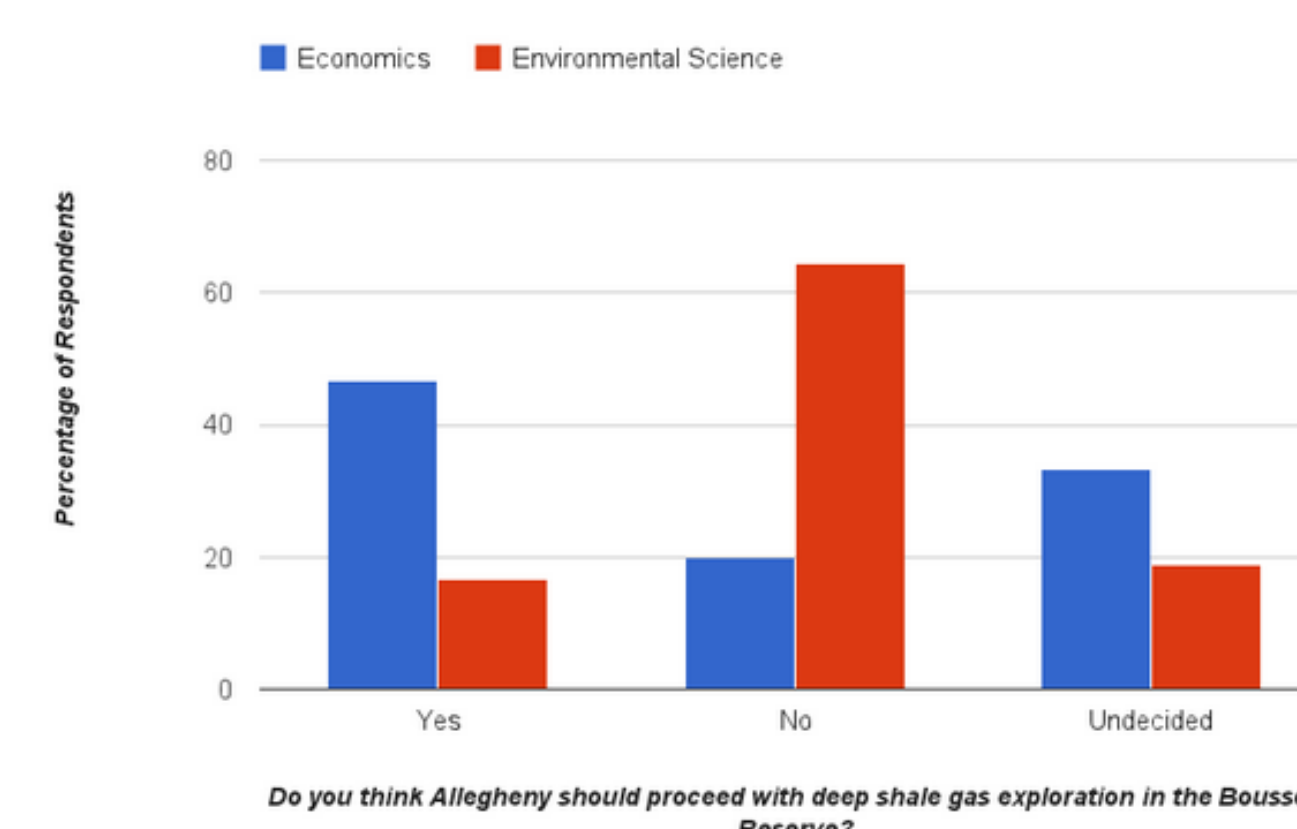
(a)

(b)

About 75 percent of the respondents who did not support deep shale exploration in Bousson also did not approve of it in the US in general. The answers did not deviate significantly from the overall results when compared within the student and faculty groups.



Only 30 percent of environmental science (ES) faculty were opposed to the project as opposed to 73 percent of students. Overall, 64 percent of the ES department were opposed to deep shale exploration in Bousson in contrast to 46 percent from the Economics department. The geology department only had 5 respondents, 2 of whom were against it while 3 were pro deep shale exploration. Due to anonymity concerns, we cannot report a faculty student breakdown in this department.



Results (contd.)

Qualitative Findings:

Social

Respondents expressed concern on the impact of fracking on the college's green reputation and on the community.

"It would be hypocritical of Allegheny to seriously consider hydraulic fracturing with its goals to become carbon neutral by 2020" - Student

"While the college community is transient, the community is not. It is unacceptable to give them the burden of our actions" - Staff

Economic

Many respondents believe that fracking can stimulate the local economy while the college could use the profits for other investments.

"It is great for the economy and jobs and can help us be more independent" - Student

"Funds derived from the gas could be used for important improvements at the College" - Faculty

Environmental

Degradation of Bousson, lack of knowledge of the effect of chemicals and the process itself were some of the major environmental concerns expressed.

"It (the fracking chemicals) could get into our ground water and our drinking water and make the environment we live in an unsafe one." - Student

"I do not feel that the current regulatory environment is equipped to handle the oversight of such activities" - Faculty

Discussion

The data suggests that the general opinion of the campus is not to proceed with deep shale gas exploration in both the United States and in Bousson. This implies that in general the Allegheny community has a negative perception of the impacts of hydraulic fracturing. The breakdown by position at the college proves that this negative perception is across the board between faculty, students and staff. The data also reveals that the majority of the Environmental Science department holds a negative perception while there is support for deep shale exploration from the Economics department. Respondents reported various factors that influenced their perceptions of hydraulic fracturing. Some factors included: Allegheny College's reputation, environmental impacts, and economic pros and cons.

In addition, the data showed evidence connecting to political ecology. Many respondents reported their concern for misrepresented communities and the lasting effects they will suffer if Allegheny College decides to proceed with hydraulic fracturing, thus drawing correlation to the degradation and marginalization theory.

Future Work

Derived from our research, there is a project currently underway to analyze our results further and compare Allegheny College's case study to other colleges in Pennsylvania. Another pathway for further research lies within the Meadville community. As direct stakeholders in the potential effects of hydraulic fracturing, their opinion plays a crucial role in the decision to proceed with hydraulic fracturing or not.

References

Robbins, Paul. 2012. Political Ecology: A Critical Introduction. 2nd edition. Wiley-Blackwell: Oxford UK.

Natural Gas. (2008). Retrieved 26 March, 2013.

"A Brief History of Hydraulic Fracturing." *A Brief History of Hydraulic Fracturing*. N.p., n.d. Web. 20 Feb. 2013.