Social Impacts of Hydraulic Fracturing: Bradford County, PA

Introduction
The purpose of our analysis is to understand the impact of Hydraulic Fracturing in Bradford County, PA. We chose to analyze Bradford because it is one of the most heavily utilized sites in PA for fracturing, with 1189 drilled wells within 200 fracturing sites.

Methods
We used four analysis steps to understand the social impact of hydraulic fracturing on the 14 census tract areas in Bradford, before and after fracturing was implemented. These include, (1) incidents of cancer, (2) change in median household income, (3) change in the number of families living in poverty, and finally, (4) change in unemployment. We rated each of these factors on a scale of 1-5, 5 being the most harmful and 1 being the least. Therefore, the most impacted census tract would have a score of 20, while the least impacted could have a score of 4.

Limitations:
We were limited by our cancer data, which was not available by census tract. Therefore, all census tract areas received a 5 for cancer incidents, as the entire county experienced increased cancer incidents by 81.5%.

Results:
All 14 census tracts in Bradford received a score of 10 or higher. The highest score was 17 in the southwest region of PA. There is no direct correlation between our final impact analysis and the number of well sites in each census tract. However, while our overall impact analysis did not impact a single census tract in its entirety, our analysis did point out many interesting themes that should be explored, and does show an overall negative social impact after hydraulic fracturing.

Impact Analysis

Impact Factors
Before and After Fracturing
1. Incidents of Cancer
2. Change in Median Household Income
3. Percent Change of Families Living in Poverty
4. Change in Unemployment

Hilary Cunningham and Emma Hanson
Tufts University | Spring 2014

Data Sources:
U.S Census Bureau: Population, Housing and Income Information, National Cancer Institute: Cancer Incidents, ArcGIS online: Hydraulic Fracturing Locations and Basemaps.
Projected Coordinate System: WGS 1984 Web Mercator