Engaged Geodesign in the Forgotten Quarter of Pennsylvania

Brian Orland + Timothy Murtha + a bunch of patient students, Landscape Architecture; Bill Doan, Theatre; Dengke Chen and Chujun Zeng, New Media; Dan Meehan, eLearning; ... all at Penn State University

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WARNING
DO NOT LEASE YOUR GAS & OIL RIGHTS TO A SL EAZY CO. CALLED PENNVIEW EXPLORATION INC.

BRAD LITTLE OWNER

175 McKnight Road Blairsville Owner Brad Little is Cheezy

Land Manager Marvin D. Hogue, Will Lie To Your Face
Sullivan County, Pennsylvania

- 6,428 people, 15/square mile
- Projected gas wells in Sullivan County—6,000
- Lifetime estimated royalty per well—$1.6m
- $1.6m x 6,000/6428 = $1.5m/person
“Mr. Penn State LANDSCAPE ARCHITECT - how are you qualified to address forest sustainability issues?”

“What (are you) going to do for Jenny Skinner? What are (you) prepared to do to fix the muddy brown strip [that's] the telltale sign of a buried pipeline right through her land?”
What should we do for Jenny?

- Does Jenny know what she wants?
- Does she know as much as she needs?
- Does she know how to influence her future?
- Does she feel motivated and empowered to do that?
- Does she know what questions to ask?
The technical problem

• Too much new information
• Too many moving parts
• Don’t know what the parts are called

The people problem

• Regular people…
  – Making choices about complex issues in the face of big industry
  – Needing to believe that solutions are possible
  – Being informed and empowered to seek help in finding solutions
Our evolving approach

• A story to engage and provide context
• A game for risk-free exploration and experimentation
• A treasure chest of plausible ideas
• A tool kit of analytical elements that can take us wherever the stories and games dictate
1. A story to set the scene
2. A serious game to explore the issues

Let's explore some of the factors that determine where a pipeline can go
The game

Landman wants to lease farmer’s land

LM chooses from scenarios 1, 2, 3

“I don’t want to rent it to you, because…”

LM persuades farmer

LM chooses from 4 and 5

LM chooses 4

LM chooses 5

Score
Pick a route, learn the issues

Shortest distance
Cost
Impacts wetland
Close to house

Well, that's not going to work, the law won't let you take it clear through the wetland
Pick a route, learn the issues

Through forest
  More cost
  Avoid wetland
  Habitat loss
  More run-off

You know, that’s going to impact a lot of the songbirds in the forest — I’m really reluctant to lease that.
Pick a route, learn the issues

Around forest
More cost
Avoid wetland
Two stream crossings

I can live with that but you’re going to have to lease a lot more of my land, even more if you want to avoid that second stream crossing.
Score!

1 Stream crossing
1 Home displaced
1 Wetland impacted
0 Forest acres lost
0.56 Miles per well

1 Stream crossing
0 Homes displaced
0 Wetlands impacted
3 Forest acres lost
0.63 Miles per well

2 Stream crossings
0 Homes displaced
0 Wetlands impacted
0 Forest acres lost
0.66 Miles per well
3. The treasure chest of examples
A past example: Pipeline land impacts

- Alternate location strategies and their impacts
  Shortest-distance, Market-driven, Conservation

- Geodesign analysis and images: Megan Prikockis, Danielle Sette
4. The geodesign toolkit

Shortest pipeline routing avoiding wetlands
1. tell the story,
2. examine the issues,
3. explore analogous examples,
....grow the ability to ask appropriate questions, and...
4. grab the toolkit to seek solutions

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