



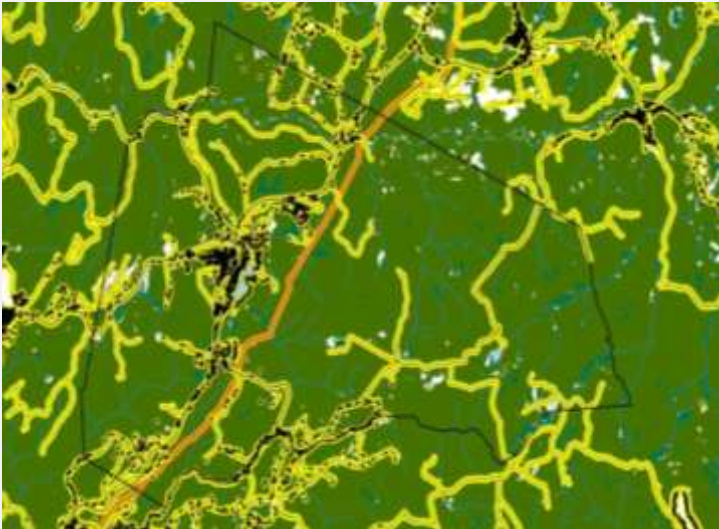
# **IMPACT OF ACCESS ROADS ON HABITAT**

**Best Road Placement Practices**

**Best Construction Practices**

Ryan Parisi

## ACCESS ROAD FRAGMENTATION



## Impact of Marcellus Drilling on Habitat

Sullivan County is known for its pristine forests and natural wildlife. Development, such as housing and roads, takes away core habitat for many native Pennsylvania animals. Drill pads require around 4 acres of clear-cutting and access roads need to be run to existing infrastructure from drill pads. All of this has an impact on local habitats.

## 3 Options for Access Road Placement

My project will be focused on identifying three different options for the placement of access roads to proposed well locations determined by the Nature Conservancy. These three options will be: a direct connection to the closest local road, a connection to a major state road following pipeline corridors, and a direct connection to the closest state highway.

## Laporte Township Map

This map shows core habitat areas found throughout the township in green and unsuitable core habitat in yellow, orange, and red. White areas represent regions that are not forested. Core habitat was determined by buffering development by 100 meters. This map will be run through the three different scenarios identified above.

## Axonometric View of the Landscape

This view shows the three different placement scenarios from an aerial perspective. A state road is seen in the foreground, a local gravel road to the right, and a pipeline corridor to the left.

## ACCESS ROAD FRAGMENTATION



### Perspective View

The final view for each scenario is a perspective view. This shows the amount of fragmentation to not only core habitat, but to forest canopy as well.

### Current vs. Proposed Design

These perspectives also show current and best practice construction scenarios. Current conditions call for wide roads to allow trucks the opportunity with ease. Creating pull-offs would allow for thinner roads and thus less fragmentation especially to the forest canopy.

### Best Construction Practice

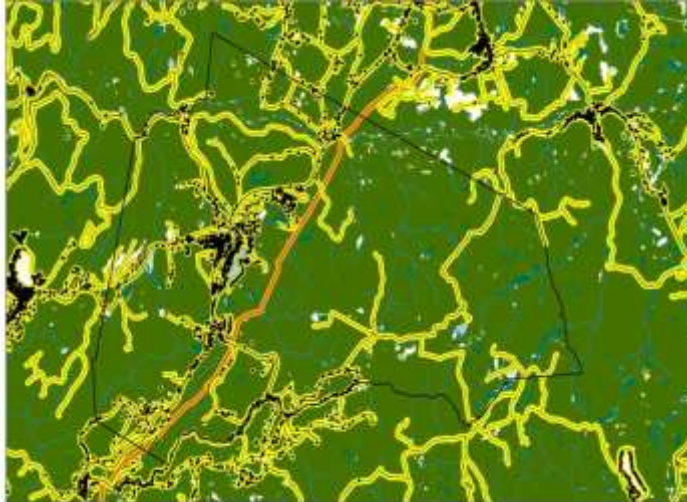
Penn State's Dirt and Gravel Road division has pages of information for recommended gravel road construction. These guidelines should be implemented for any well pad access road.

[www.dirtandgravel.psu.edu](http://www.dirtandgravel.psu.edu)

# HABITAT FRAGMENTATION

# Access Roads

Local Access Road



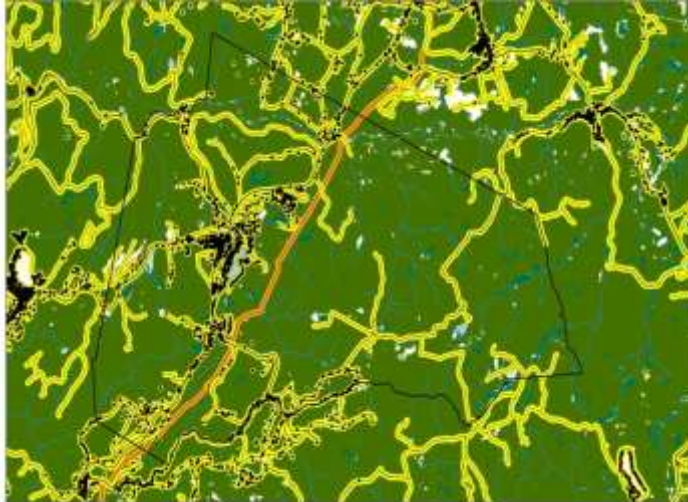
**Current Conditions**

Summary info

**Local Access Road Scenario**

Summary info

# HABITAT FRAGMENTATION



**Current Conditions**  
Summary info

# Access Roads



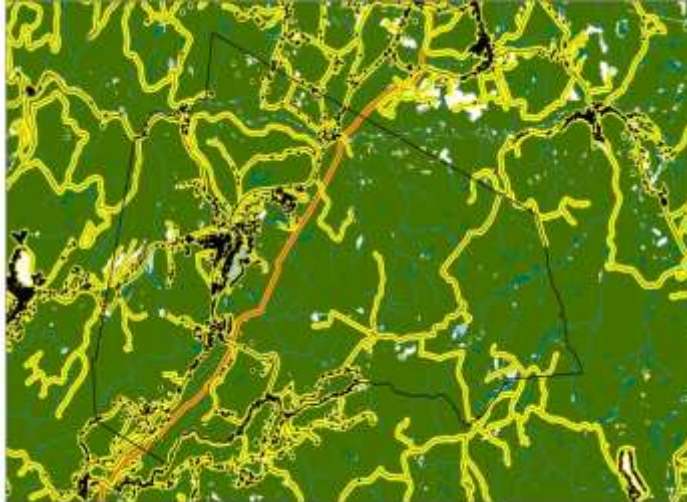
**Local Access Road Scenario**  
Summary info

Local Access Road

# HABITAT FRAGMENTATION

# Access Roads

Pipeline Access Road



**Current Conditions**  
Summary info

**Pipeline Access Road Scenario**  
Summary info

# HABITAT FRAGMENTATION



**Current Conditions**  
Summary info

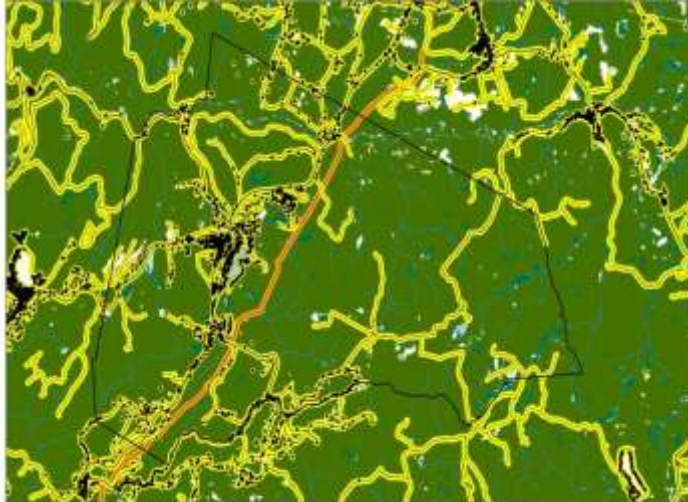
# Access Roads



**Pipeline Access Road Scenario**  
Summary info

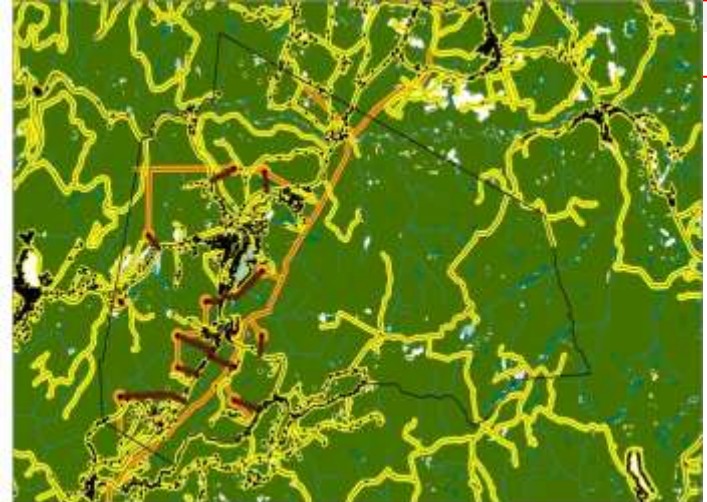
Pipeline Access Road

# HABITAT FRAGMENTATION



**Current Conditions**  
Summary info

# Access Roads



**State Route Access Road Scenario**  
Summary info

State Access Road

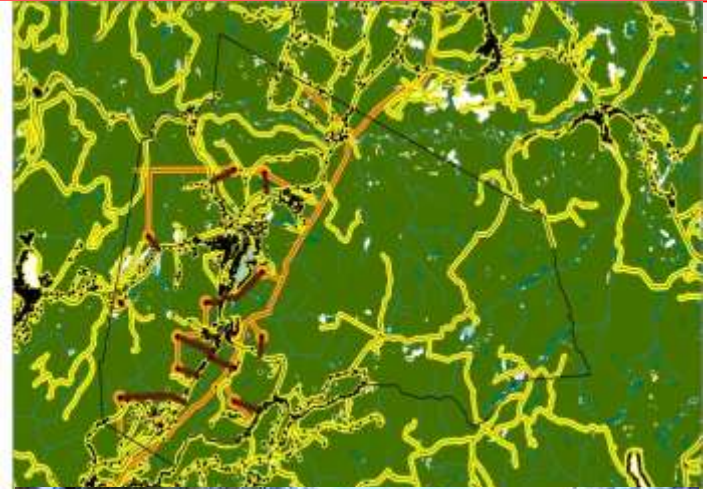


# HABITAT FRAGMENTATION



**Current Conditions**  
Summary info

# Access Roads



**State Route Access Road Scenario**  
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State Access Road