

Right-of-Way Stewardship & Natural Gas Pipelines

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- ▶ **Pennsylvania Chapter, The Nature Conservancy**
 - ▶ **Right-of-Way Stewardship Council**

- ▶ **August 9, 2017**

Webinar Overview

- Introduction to The Nature Conservancy's energy program.
- Introduction to Integrated Vegetation Management (IVM)
- Introduction to the Right-of-Way Stewardship Council (ROWSC)
- Overview of ROWSC accreditation program.
- The benefits of IVM & ROWSC accreditation.
- Resources and Q&A



Assessing the Impacts Of Energy Development

Investigate and analyze current development trends at landscape level



Create predictive models of future development patterns



Integrate ecological data



Project potential long-term ecological impacts

Energy Development in North America

“Energy sprawl is (by far) biggest driver of habitat loss in the United States.”

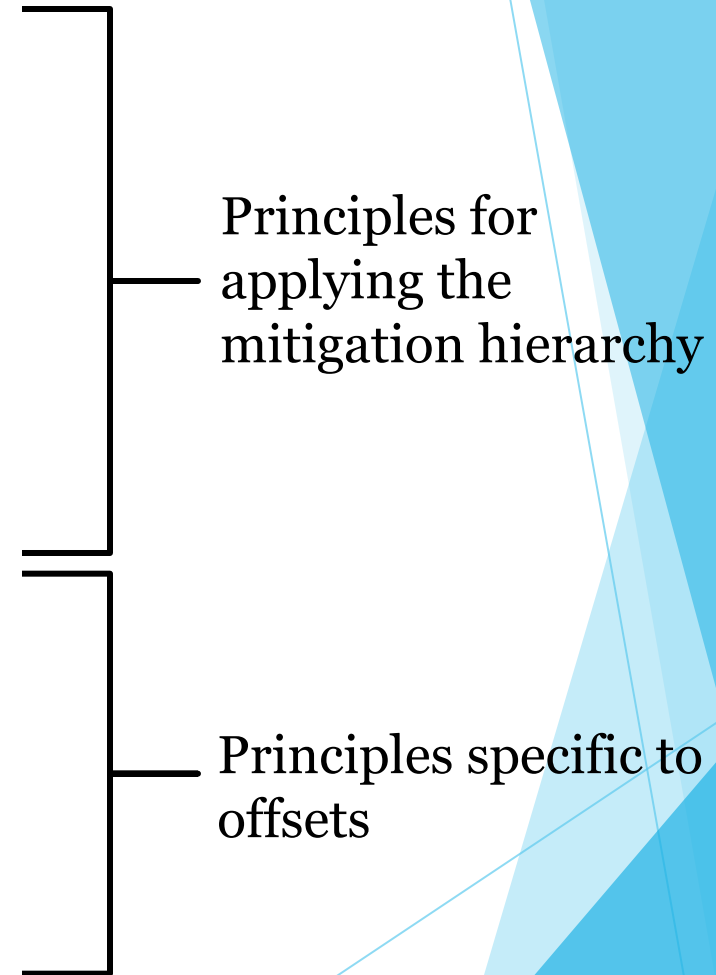
“Energy development is expanding into many areas that previously were not at risk.”

“Significant opportunities for improved siting and mitigation”

Source: Fargione et al 2016

10 Principles for Applying the Mitigation Hierarchy

1. Landscape context
2. Goals
3. Mitigation hierarchy steps
4. Limits to offsets
5. Sustainable outcomes
6. Stakeholder engagement practices
7. **Additionality**
8. **Equivalence**
9. **Location**
10. **Temporal considerations**



Leap

Landscape environmental energy planning

The ArcGIS-based tool:

- Generates **optimized layouts** for shale oil/gas well pads, access roads, and gathering pipelines
- Incorporates **existing environmental regulations** and encourages exclusions and setbacks beyond regulatory minimums



Leading Practices Document Topics

Topics Covered

- ▶ Landscape Scale Planning
- ▶ Ecological Buffers
- ▶ Road Development
- ▶ Stream Crossings
- ▶ Water Withdrawals
- ▶ Timing of Activities
- ▶ Noise
- ▶ Artificial Lighting

Topics In Development

- Pipeline Development
 - Includes:
 - Integrated Vegetation Management
 - Invasive Plant Management
 - Reclamation

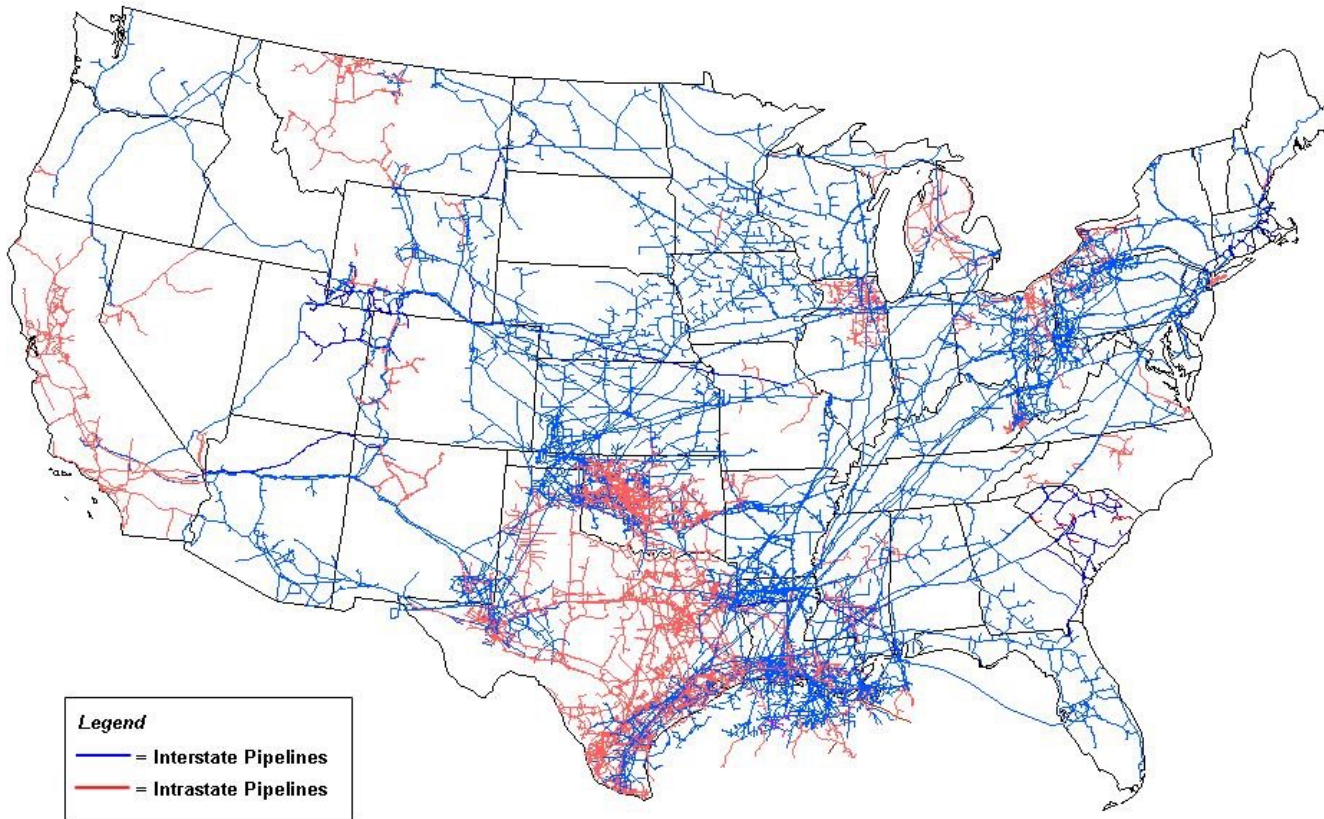
Topics Not Covered

- ▶ Air Quality
- ▶ Risks of Spills
- ▶ Public Health and Safety

Cross Cutting Themes

- ▶ **Environmental Challenges are Massive in Scale** and have solutions that depend on multiple stakeholders and multiple disciplines all working in tandem with each other;
- ▶ **Knowledge Gaps between Stakeholders** regarding current research, regulatory changes and on-the-ground practices;
- ▶ A number of environmental challenges associated with shale development are also relevant with other forms of energy and infrastructure development, with **opportunities to learn across development sectors**;
- ▶ **Many solutions** to a number of challenges already **exist**.

300,000 Miles of Natural GAS Pipelines in the U.S.



Source: Energy Information Administration, Office of Oil & Gas, Natural Gas Division, Gas Transportation Information System

INTEGRATED VEGETATION MANAGEMENT

- ▶ Establish objectives for compatible vegetation communities.
- ▶ Set thresholds for vegetation management action.
- ▶ Evaluate current site conditions.
- ▶ Choose appropriate control methods from mechanical, chemical, biological, cultural techniques.
- ▶ Implement control measures and monitor results.
- ▶ Adapt plans in response to meet objectives.

Right-of-Way Stewardship Program in a Nutshell

*The intent is to recognize
and validate excellence
in the practices of
Integrated Vegetation
Management (IVM) on
Rights of Way (ROW).*

*The initial focus was on
the North American
high voltage grid.*

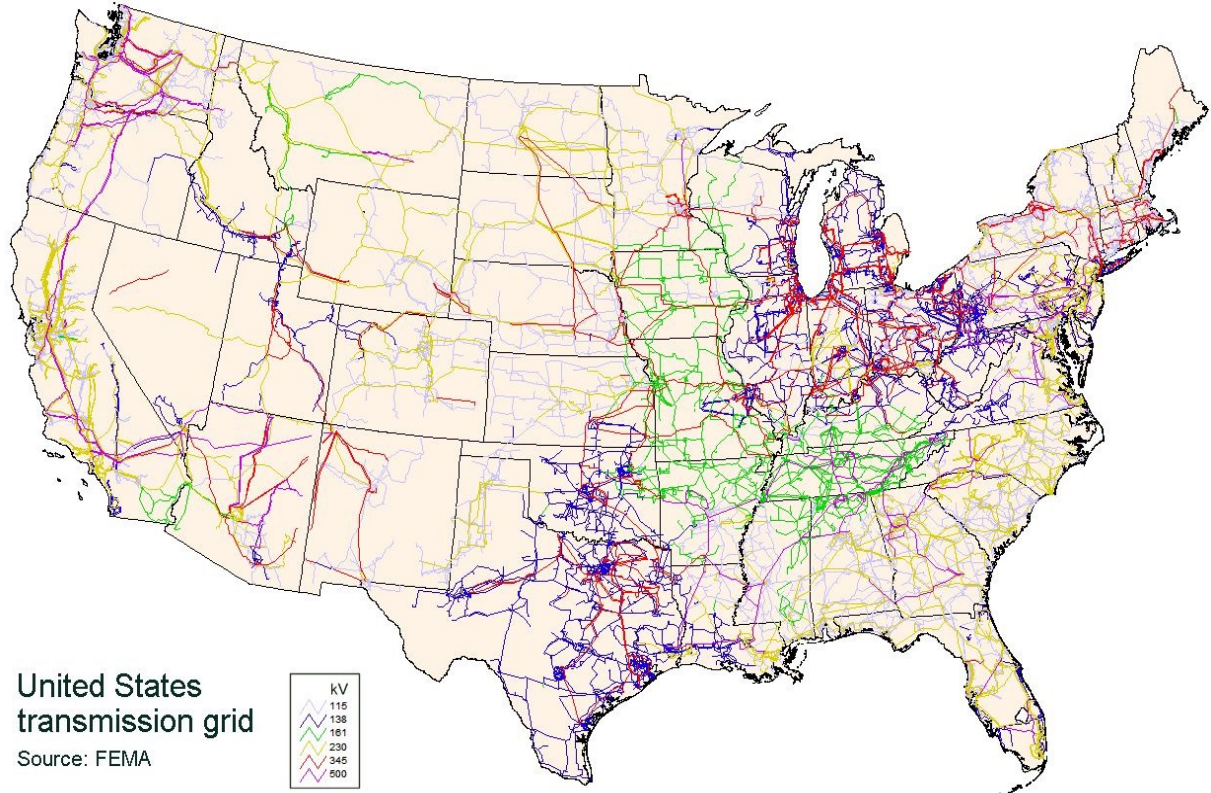


**Right-of-Way
Stewardship Council**

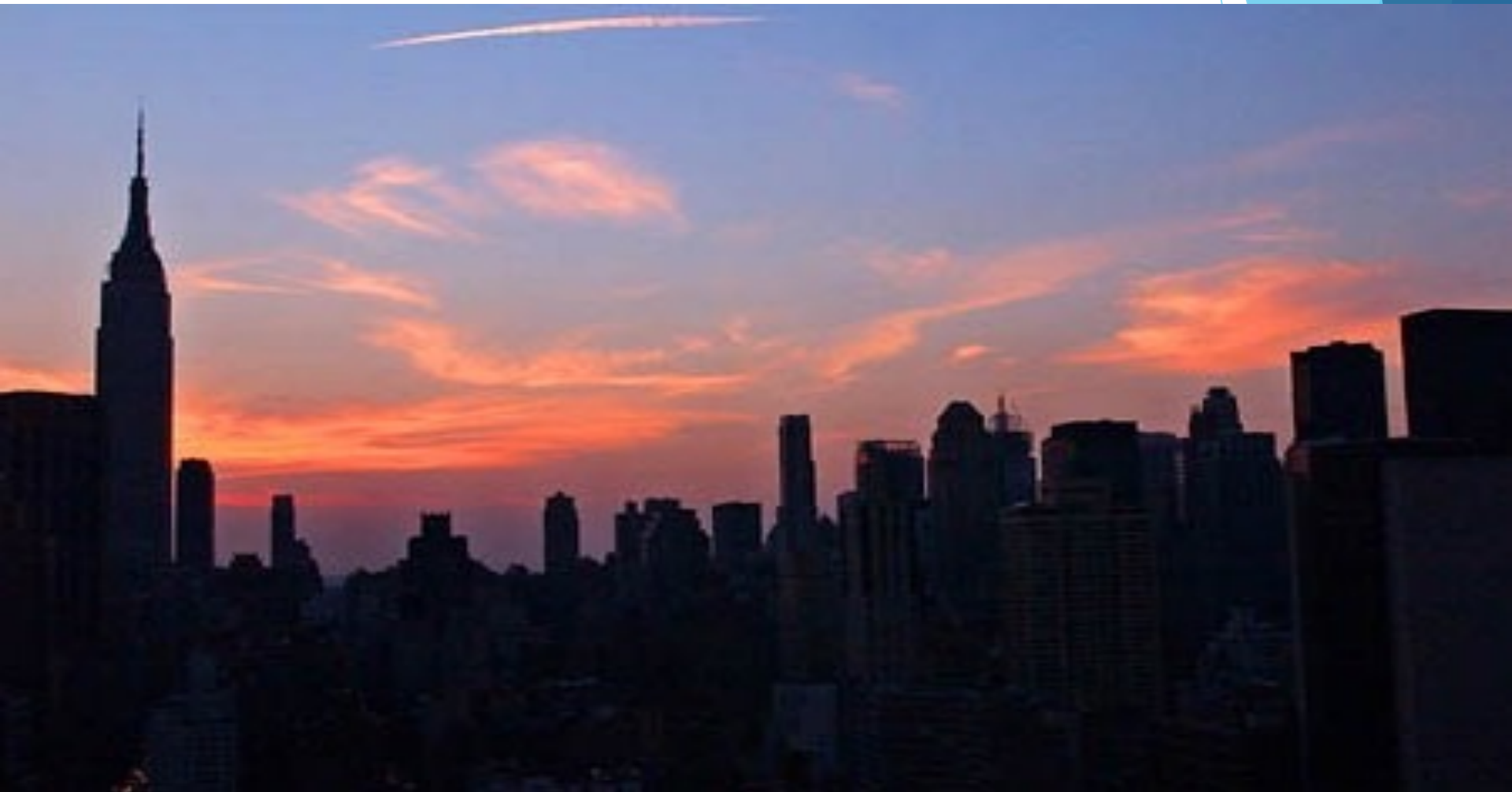


The US High Voltage Transmission Grid

- 160,000 miles of transmission line operating at 230-765 kV,
- North American transmission system in total, including those lines that operate at 35 kV and above is estimated at over 450,000 miles.
- Total land area being managed as transmission corridors is estimated at between 8.6 - 11million acres.



Sunset in New York City, August 14, 2003



Industry's Response to 8/14/03

- ▶ 2006 NERC Standard FAC-003, subsequent fines
- ▶ 2006 - ANSI A300 (Part 7) IVM
- ▶ 2007 - ISA IVM BMP
- ▶ 2008 *“Standards for Assessing Performance of Integrated Vegetation Management on Rights-of-Way”*, Electric Power Research Institute (EPRI)
- ▶ 2009 UAA *“Closed Chain of Custody”* BMP

Brief History of ROW Stewardship Council (ROWSC)

- ▶ 2010- Genesis of an idea and Conceptual proposal to professional association (UAA)
- ▶ 2011- Basic design, concept developed, and discussions within industry
- ▶ 2012 - Detailed design, working with stakeholders
- ▶ 2013 - ROW Stewardship Council formed and three pilots completed.
- ▶ 2014 - ROWSC Accreditation Standards established and first utilities accredited.
- ▶ 2016- ROWSC Standards revised and first natural gas utility accredited.



**Right-of-Way
Stewardship Council**

ROWSC in Detail

The Right-of-Way Stewardship Council (ROWSC) is an accreditation program that establishes standards for responsible right-of-way vegetation management along corridors.

- Promotes the application of Integrated Vegetation Management (IVM) and best management practices to utility vegetation managers in order to maintain power system reliability and address ecological concerns.
- Accreditation provides standards of excellence for environmental stewardship and independent, third-party recognition to these types of IVM programs.
- The ROWSC has established management standards based on a set of predetermined principles, requires a formal application process, and enlists third-party auditors to ensure compliance with standards.
- The ROWSC model follows the lead of the Electric Power Research Institute's (EPRI) Standards for Assessing Performance of Integrated Vegetation Management on Rights-of-Way and is informed by other well-established forestry accreditation programs such as the Forest Stewardship Council and Sustainable Forestry Initiative.



Right-of-Way
Stewardship Council



Right-of-Way Stewardship Council

| Constituency | Affiliation |
|---------------------------|----------------------------|
| Environmental NGO | Wildlife Habitat Council |
| Environmental NGO | The Nature Conservancy |
| Environmental NGO | Pollinator Partnership |
| Academic Member | Cornell University |
| Public at large | Private Citizen |
| UVM Contract Applicator | Progressive Solutions, Inc |
| UVM Consultant | CN Utility Consulting |
| UVM Supplier | DuPont |
| Government/Regulator | US EPA |
| Industry Organization | EPRI |
| T-ROW Asset Owner/Manager | American Electric Power |
| T-ROW Asset Owner/Manager | Pacific Gas & Electric |
| T-ROW Asset Owner/Manager | Exelon |

10 Principles of ROW Stewardship

Responsible Management

1. Compliance With Laws
2. Tenure And Use Rights And Responsibilities
3. Community Relations And Workers Rights
4. Management Planning

Tenants of Integrated Vegetation Management

5. Understanding Pest And Ecosystem Dynamics
6. Setting Management Objectives And Tolerance Levels
7. Compilation Of A Broad Array Of Treatment Options
8. Accounting For Economic And Ecological Effects Of Treatments
9. Site Specific Implementation Of Treatments
10. Adaptive Management And Monitoring



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Accreditation Process

Application: gather sufficient info from applicant to develop a cost estimate for accreditation

Gap Analysis: determine the level of readiness of applicant, Go/No-go decision to proceed

On-site Assessment: team of technical experts evaluate systems and procedures on the ground to ensure compliance

Report: findings are basis of determination if accreditation granted and provides an opportunity for feedback and clarify next steps

Recurring Assessments: annual assessment and determination of continued accreditation



Founding Utilities

- ▶ Arizona Public Service (APS)
- ▶ Vermont Electric Company (Velco)
- ▶ New York Power Authority (NYPA)
- ▶ Bonneville Power Administration (BPA)
- ▶ Sacramento Municipal Utility District (SMUD)
- ▶ Altalink
- ▶ Pacific Gas & Electric (PG&E)



Benefits of IVM

1. Creates habitat for wildlife and pollinators.
2. Decreases inputs and impacts from mowing & pesticides.
3. Reduces management and maintenance costs -
 - ▶ Recent case studies have shown that IVM strategies utilizing selective herbicide application reduce vegetation management or reclamation costs between a third and a half when compared to just mechanical treatment.
 - ▶ Conversely, the same case studies have shown that going from an IVM strategy back to repeated mowing only will double maintenance costs.



Benefits of ROWSC Accreditation

1. Direct benefits to the IVM program through adoption of best practices.
2. Potential for favorable regulatory consideration, compliance and siting.
3. Customer education and brand enhancement.
4. Active inclusion of a diverse stakeholders.
5. Improved habitat and reduced environmental impacts.



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Resources

- ▶ Right-of-Way Stewardship Council

www.rowstewardship.org/

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