

Fact Sheet

Benefits of Integrated Vegetation Management on Rights-of-Way

The August 14, 2003 Electricity Blackout

Vegetation interference with transmission and distribution power lines is one of the most common causes of electrical outages throughout the United States. The August 14, 2003 electricity blackout was the largest in our Nation's history. It affected more than 50 million people across eight north-eastern and midwestern states and two Canadian provinces. In some areas, power was restored in hours, while other areas were without power for several days. While this blackout was an inconvenience for many, it also interrupted critical infrastructure services and cost the American economy an estimated \$7 to \$10 billion¹. The August 14, 2003 blackout culprit: overgrown trees².

The National Academy of Sciences has called America's electric power system "the supreme engineering achievement of the 20th Century." This system's ability to provide reliable, abundant, accessible, and affordable energy is the cornerstone of America's economy and essential to our national security. As the United States market-based economy continues to become increasingly wired, these issues assume increased importance. Each day in the United States...

- More than **10,000 power plants** deliver electricity to
- More than **131 million customers** over
- **157,000 miles** of high voltage electric transmission lines.

Critical electrical power infrastructures—including transmission lines, relay facilities, pipes, fences, gates, bridges, and access roads—occupy many acres across the United States on rights-of-way (ROW) corridors. Easy, safe access to repair

¹ICF Consulting, "The Economic Cost of the Blackout: An Issue Paper on the Northeastern Blackout, August 14, 2003."
²Federal Energy Regulatory Commission (FERC), "Utility Vegetation Management (UVM): Final Report", March 2004.

and update these critical infrastructures is essential. Proper maintenance—including vegetation management—of ROW and its supporting facilities is crucial to ensuring the reliable transmission of affordable electrical power, though this is no small task. Unmanaged and poorly maintained vegetation can cause electricity outages, wildfires, soil erosion, and water quality issues. These events can damage electric power infrastructures, resulting in serious reliability, economic, environmental, and national security consequences.

Proper vegetation management on ROW is not just a concern for utility managers; it is also vitally important to those who manage the land adjacent to ROW. How vegetation is managed on ROW can impact the surrounding land by causing wildfires, fragmenting wildlife habitat, and introducing invasive and exotic species. Utility companies and land managers can both benefit by implementing Integrated Vegetation Management (IVM) programs on ROW and adjacent properties.

Integrated Vegetation Management

IVM is generally defined as the practice of promoting desirable, stable, low-growing plant communities—that will resist invasion by tall-growing tree species—through the use of appropriate, environmentally sound, and cost-effective control methods. These methods can include a combination of chemical, biological, cultural, mechanical, and/or manual treatments. The IVM approach strives to manage vegetation and the environment by balancing benefits of:

- Control,
- Cost,
- Public health,
- Environmental quality, and
- Regulatory compliance.

Adopting IVM on ROW can:

- Improve transmission reliability,
- Reduce vegetation management costs,
- Reduce utility customers' costs,
- Improve native plant and songbird habitat, and
- Provide other ecological benefits (e.g., reduce runoff, control invasive species, create wildlife habitat, etc.).

Economic Benefits of IVM

Vegetation management on ROW often represents a utility company's largest operations and maintenance cost. ROW IVM programs establish low-growing vegetation that out compete taller-growing species. As the ROW landscape transitions, utility companies spend less money maintaining the ROW

through reduced need for mechanical controls (e.g., mowing) and more focused, selective chemical controls (e.g., herbicide application). Utility companies that adopt long-term IVM approaches often benefit from significant vegetation management cost savings, which can be reflected in customer rates.

IVM on ROW can also reduce national economic impacts associated with poorly managed vegetation. According to the Electric Power Research Institute (EPRI), power outages and other power disturbances cost the U.S. economy

nearly \$120 billion every year. Much of this cost can be directly attributed to power outages triggered by overgrown vegetation on ROW. Additionally, under the Energy Policy Act of 2005, utilities can be fined \$1 million per day for each outage occurrence. By implementing IVM programs on ROW, utility companies increase the reliability of electric power and protect our Nation's "wired", market-based economy, while reducing the risk of heavy fines.

Environmental Benefits

Depending on their land holdings, utility companies might manage a variety of geological features on their ROW, such as:

- Lakes, ponds, rivers, and streams,
- Public and private water supplies,
- Wetlands,
- Agricultural areas, and
- Wildlife and plant habitat.

Poorly managed vegetation on ROW can have significant negative impacts on these features, such as wildfires, soil erosion, and water quality issues associated with runoff. An IVM program on ROW can reduce these risks.

While vegetation management on ROW is essential for providing safe and reliable electric power, these ROW also provide important wildlife habitats. As wildlife habitats in the United States are lost to development, these ROW become increasingly important. While poor vegetation management on ROW can result in the loss of these critical habitats, the IVM approach can create natural, diverse, and sustaining ecosystems, such as a meadow transition habitat. These transition landscapes, in turn, reduce wildlife habitat fragmentation and allow species to be geographically diverse, remaining in areas from which they might otherwise be excluded. A variety of wildlife species (including threatened and endangered species) consider these habitats home, such as butterflies, songbirds, small mammals, and deer. These habitats also encourage the growth of native plant species and can increase plant diversity.

Invasive and exotic species are often a problem on ROW, and, consequently, the surrounding land. IVM techniques (such as selective herbicide application) can minimize this problem, while ensuring native and endangered species are not affected.

Working Together

Both utility companies and land managers have specific needs and goals regarding vegetation management on and around ROW. Although they differ, they are not mutually exclusive and can often be complimentary. Using IVM on ROW can help both parties achieve their goals. The fostering of good working relationships and open communication between managers of adjacent land and utility companies can ease the transition to an IVM program easier and increase the resulting benefits.

For More Information...

Visit EPA's Pesticide Environmental Stewardship Program Web site at:

www.epa.gov/pestwise/pepsp

