

Utility Rights-of-Way

Utility rights-of-way (ROWs), covered with low-growing vegetation, are conspicuous elements in West Virginia's largely forested landscape. Nationally, natural gas and electric transmission line ROWs run over 481,000 miles. In West Virginia, natural gas ROWs run 15,299 miles and electrical transmission lines cover 48,765 miles. Although many of these ROWs occur in farm fields, back yards, or other managed areas, many ROWs are unmanaged vegetation and consist of grasses, wildflowers and small shrubs that can provide habitat for pollinators. Loss of habitat is one of the leading causes of pollinator declines. Vegetation management by utility companies for pollinators, in cooperation with the landowner, can significantly enhance pollinator abundance and diversity, helping to maintain biodiversity and enhance pollination of agricultural crops and native plants.



High voltage powerline and ROW, Fairfax Stone, Tucker County, WV.

ROWs

A rights-of-way is, by definition, the legal right, established by usage or grant, to pass along a specific route through grounds or property belonging to another. In West Virginia, utility ROWs are linear areas granted to utilities by the state but owned by private or public landowners. Utility companies are required to remove large woody vegetation that would impact the transmission of electricity or integrity of natural gas lines, but landowners have a say in how the other vegetation is managed.

Increasingly, ROWs are being viewed as areas for biological conservation. Although their construction damages habitats, ROWs, especially larger ones, include grasslands and shrublands that harbor native plants, invertebrates, amphibians, reptiles, small mammals, and birds. In an historic agreement in April 2020, more than 30 utilities across the United States partnered with the US Fish and Wildlife Service to create a national candidate conservation agreement with assurances for monarch butterfly conservation. This voluntary agreement is intended to provide conservation for monarch butterflies and to address impacts from routine maintenance and upgrades within energy and transportation lands on monarch butterflies and their populations. Although the agreement is focused on monarch butterflies, virtually any activities that benefit monarchs will also benefit other native pollinators. First Energy and American Electric Power, which operate in West Virginia, have signed onto the agreement; additional companies continue to become partners as well.



Frosted elfin butterfly, a rare species that often uses brushy and dry habitat in utility ROWs.

ROW Management

Federal and state regulations require that utility ROWs be kept clear of obstructing vegetation so that customers reliably receive electricity or natural gas. Requirements differ for electric and natural gas ROWs.

Electric ROWs

The width of electric ROWs varies with the voltage level of the lines, from 20-30 feet for local distribution from substations to households, to 100-200 feet for high voltage lines carrying 100, 340, or 500 kV from power plants and between substations. The ROW can be divided into border zones at the edges and a wire zone in the middle.

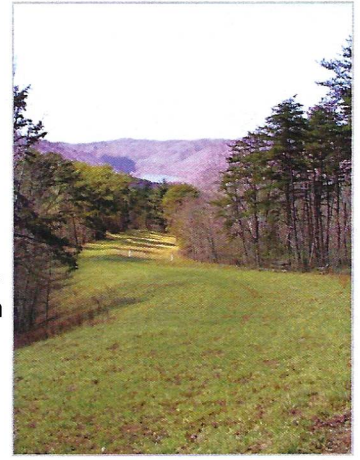
The wire zone, located directly under the wire, is typically restricted to vegetation under six feet depending on the topography; this height can be increased in valleys where the wires are suspended much higher up. The two border zones on either side may harbor taller vegetation such as shrubs and small trees. Narrow ROWs, however, are restricted to shorter vegetation. Accessibility to towers and pylons must be maintained for maintenance and repair.

Electric ROWs are managed using mowing, cutting, and herbicide use. The degree and type of management is determined by the growth of woody vegetation and landowner preferences.

Natural Gas ROWs

Natural gas ROWs include gathering and distribution systems, from wells to storage facilities and from distribution hubs to consumers, as well as longer interstate pipelines to move products to other areas of the country. Pipelines on average are buried 30-36 inches below ground level and have a 20-50 year life span or longer. Interstate ROWs are about 50 feet wide after reclamation with gathering and distribution lines often narrower.

Natural gas pipeline ROWs are generally managed by mowing or other mechanical means. A ten-foot wide zone of herbaceous vegetation directly over the pipeline is typically mowed annually, outside of bird nesting seasons, to ease inspections and maintenance. The areas on either side of this zone may receive management every three years. Depending on the land use on the ROW, landowners may do more frequent management.



Natural gas pipeline ROW near the New River, Summers County WV.

Pollinator Friendly Practices

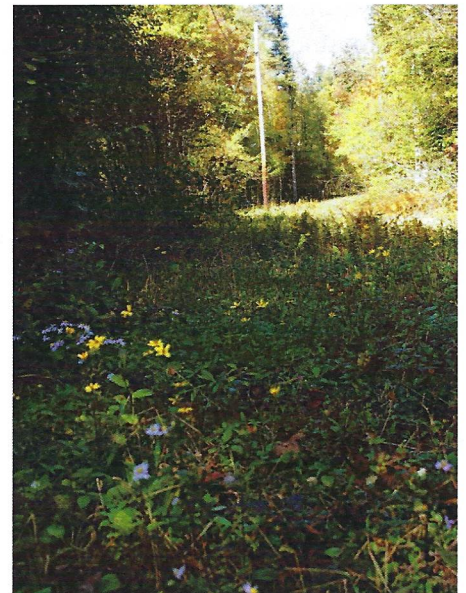


Spot spraying non-native invasive plants on pollinator experimental plots with a herbicide at WVU Jackson's Mill, Lewis County, WV.

- Seeding of ROWs is primarily done to reduce erosion on steep slopes. Although native vegetation is preferred for its value to pollinators and other wildlife, using quick germinating and growing non-native species is often needed to hold soil in place. However, a variety of seeding types can be used over the whole ROW depending on slope, soils, wetness of soils, and climate.
- Control non-native aggressive plant species using the most effective and ecologically friendly techniques available. Electric and natural gas pipeline ROWs, because of their linear nature and frequent disturbance, are effective dispersal corridors for these species. They are often brought in during construction and are dispersed by maintenance vehicles and others. Disturbed habitats are more vulnerable to being compromised and both native plants and insects may be impacted.
- Allowed use of ROW areas includes shallow cultivation that that can be used to help remove existing vegetation if needed, preparing a seed bed, and seeding native wildflowers. This vegetation type is in accordance with regulations for either

ROW type. For ROWs within agricultural areas, the additional pollen and nectar will enhance pollination of crops by native pollinators and, over time, the support of a healthy invertebrate community will provide pest control and a reduction in pesticide use.

- Reclamation with native plant species supports native pollinators that are adapted to and thrive with these species. Native pollinators provide better and frequently the only pollination for native plant species. Non-native plant species are often toxic to native plant-eating insects, with pollen and nectar providing less complete nutrition to native pollinators.
- To provide pollen and nectar sources for pollinators, ROWs should be mowed both to control unwanted plants and to maximize nectar and pollen for pollinators. Mowing should also be timed to provide refuges for immature and overwintering pollinators.
- Avoid and reduce use of pesticides, especially insecticides and fungicides. Use of both insecticides and fungicides often has a compounding toxic effect.








Electric line ROW six months after clearing and seeding with a native pollinator mix in Monongalia County, WV.










*Two highly invasive non-native grasses from Asia. Small carpet grass (*Anthraxon hispidus*) at left and Japanese stiltgrass (*Microstegoum vimineum*) at the right. Both should be eliminated from any pollinator planting by mechanical or chemical means.*

Recommendations




Seeding and Reclamation of ROWs

-  Where feasible based on slope, soils, and other requirements plant native plant species.
-  Soil tests should be obtained for the areas of the ROW that may get different seeding treatments. Keep in mind that native herbaceous species generally will not need fertilizer but, depending on past land use, may need an appropriate amount of lime. Native species are adapted to West Virginia's slightly acidic and lean soils.
-  When seeding a native mix follow the Rule of Three: include at minimum 3 species that flower each season, 3 different bloom colors each season, and 3 different flower shapes each season.
-  Potential competing vegetation should be completely removed before seeding native perennial wildflowers, and plant the seeds at the proper shallow depth. There must be good seed to soil contact.
-  Instead of mulch, considering planting a nurse crop to help hold seed in place and aid in moisture retention in the soil. Oats, buckwheat, and red top millet are commonly used nurse crops based on location and time of seeding. Before purchasing nurse crop seed, confirm that it isn't treated with insecticides or fungicides.

ROW Maintenance

-  Mowing of selected areas should be timed to early or late in the growing season. Perform spring mowing before April 1st, and late season mowing after November 1st. These dates may need some adjustment for areas for higher elevations areas in mountainous counties. This practice may help increase floral diversity and the abundance of pollinators.
-  Avoid mowing from April 1 to November 1 in areas near milkweed and blooming nectar plants in this region to support the monarch butterfly.
-  Avoid mowing blooms and seeds before dispersal to maintain current and future food resources for pollinators. Mowing only selected sections of fields will maintain areas with blooms and provides for seed dispersal.
-  The extent of mowing should be reduced. Spot or strip mow portions of vegetation that are necessary to cut instead of mowing the entire area where applicable.
-  A flushing bar mounted on a tractor ahead of the cutting blades should be used to avoid injuring wildlife and to mow at speeds of 8mph or less.
-  Mower blades should be set to 8-12 inches off the ground or as close to that as possible. This height will spare low growing plant species and will increase recovery time for taller plant species.
-  Request that utility companies treat non-native invasive plant species during maintenance of the ROW by mechanically removing or treating these species with herbicide. Also request that utility company staff and contractors clean gear and footwear before working on your property to reduce the possibility of an introduction of non-native plant species.

Herbicides

-  Spot spray target pest plant species instead of broadcast spraying with herbicides to avoiding damaging beneficial plants.
-  Apply herbicides according to label instructions at the right time of year to the correct plant stage of growth for the target species.
-  Use herbicides that are specific to the targeted species, such as specific to either grasses or broad-leaved plants.

Additional Resources

Several good online websites provide accurate information on pollinators. Highly regarded ones include: Xerces Society for Invertebrate Conservation (xerces.org), Pollinator Partnership (pollinator.org), Monarch Joint Venture (monarchjointventure.org), and Monarch Watch (monarchwatch.org). Below are some downloadable materials related to this BMP. Additional information is available on their websites or others as indicated.

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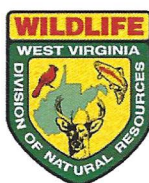
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