

POLLINATOR HABITAT PROGRAM (PHP).

Roadsides cover over 10 million acres nationwide! (Forman et al 2003) And an estimated four acres of open space is lost to development EVERY MINUTE! (USFS 2006)

Because of these and other staggering facts, VDOT realizes that roadsides are too important not to be



managed properly. States such as Florida have placed values on roadside vegetation that are estimated in the half a BILLION dollar range. This includes valuation based on conservation management practices, and it is suggested that value could rise to \$1.5 billion if reduced mowing and inclusion of native wildflower areas is expanded.

In **2014**, VDOT developed and implemented a pollinator habitat program to create naturalized areas planted with nectar and pollinator species. The goal of the program is threefold:

1. Provide enhanced habitat areas for threatened and dwindling pollinator species such as bees and butterflies while maintaining VDOT mission of safety. “Pretty” roadsides have actually been shown to reduce driver fatigue and improve mood,
2. Reduce maintenance costs by reducing the number of mowings/year and other vegetation maintenance costs such as invasive species control and herbicide applications,
3. More holistically implement an Integrated Vegetation/Pest Management program statewide. This will include increases in erosion and sediment control, reductions in stormwater runoff, less use of pesticides, increases in habitat and visual aesthetics.

2014 was a pilot program year. Four plots were planted in the Northern Virginia District, three at Park & Rides and one at the Safety Rest Area on I95 at Dale City Southbound. The plots were 900 sq. ft. each and planted with 13 species. These plantings were a great way to learn what works and what doesn't, and to begin the all-important task of educating staff and citizens about the changes in practices.

In **2015**, a large meadow area was planted at the Safety Rest Area on I95 at Dale City North. 23 species were planted. Take a look at pictures from the day of the event:

<https://www.flickr.com/photos/vadot/sets/72157656972559703>

Press Release from the September 2015 event:

http://www.virginiadot.org/newsroom/statewide/2015/vdots_pollinator_habitat_program86655.asp

National Geographic blog on Virginia Rest Area plantings:

<http://theplate.nationalgeographic.com/2015/11/03/are-highway-rest-stops-pollinators-last-hope/>

WTOP article: <http://wtop.com/prince-william-county/2015/09/butterfly-habitat-planted-at-dale-city-rest-stop/>

Areas in the Bristol District were seeded with native pollinator and grass species in the fall of 2015 in order to analyze what seed mixtures and types of implementation work best. The areas seeded were medians and roadsides. Stay tuned for pictures in spring/summer 2016 to see how these areas are coming along.

What IS a pollinator?

A pollinator is an animal that causes plants to make fruits or seeds. They do this by moving pollen from one part of the flower of a plant to another part, or from one plant to another, to fertilize the flower. Only fertilized flowers can make fruit and/or seeds. Without fruit and/or seeds plants cannot reproduce. Pollinators in Virginia include bees, butterflies, moths, beetles, flies and birds.



Managing for Pollinators is Consistent with Transportation Priorities.

- **Safety**
 - Wildflower perennials & grasses are not favored by deer
 - Mowing only the shoulder allows line of sight, space for motorists to pull-off, prevents encroachment of shrubs/trees
- **Protection of roadway/roadside assets**
 - Native vegetation stabilizes slopes & reduces erosion; increases stormwater/nutrients retention due to deep roots; fit for our climate/less maintenance
 - Native plants can be the best defense against invasives & provide a smooth transition to adjacent properties
- **Efficient management of woody vegetation**
 - Reduced mowing saves money
 - Maintenance of problem vegetation reduced
- **Environmental Benefits**
 - Reduction in use of herbicides
 - Increased erosion & sediment & stormwater runoff control
 - Helps to reduce invasive species

How does this Program fit into VDOT?

VDOT Vegetation Management Program has initiated a renewed effort to develop & implement an Integrated Vegetation Management (IVM) strategy that applies statewide.

Basis of IVMP include four control methods:

- Mechanical
- Chemical
- Biological
- Cultural

The Pollinator Habitat Program fits well into VDOT's IVM Program.

Why do we care about Pollinators?

Pollinators contribute substantially to the economy of the United States and are vital to keeping fruits, nuts, and vegetables in our diets. Over the past few decades, there has been a significant loss of pollinators—including honey bees, native bees, birds, bats, and butterflies—from the environment. The problem is serious and poses a significant challenge that needs to be addressed to ensure the sustainability of our food production systems, avoid additional economic impacts on the agricultural sector, and protect the health of the environment.



Pollinators contribute more than 24 billion dollars to the United States economy, of which honey bees account for more than 15 billion dollars through their vital role



in keeping fruits, nuts, and vegetables in our diets.

Native wild pollinators, such as bumble bees and alfalfa leafcutter bees, also contribute substantially to the domestic economy. In 2009, the crop benefits from native insect pollination in the United States were valued at more than 9 billion dollars.

An estimated 60 to 80% of the WORLD's quarter million flowering plant species depend on animals, mostly insects, for pollination (Kremen et al 2007). This includes

ONE THIRD of our world food production!

The Monarch butterfly migration, an iconic natural phenomenon that has an estimated economic value in the billions of dollars, sank to the lowest recorded levels last winter, with an imminent risk of failure.

Why Native Plants?

- Native plants are less likely to encroach on private lands bordering rights-of-way, a common complaint to DOTs about nonnative species such as crown vetch and sericea lespedeza.



- Native plant communities will reduce runoff and take up more excess nutrients and toxins in the spring and act as snow fences in the winter, preventing snow from blowing across roadways.

- Native plants are aesthetically pleasing and have been shown to reduce driver fatigue and road rage.

- Native plants are adapted to particular areas and as such are drought, flood and pest resistant. They have much deeper root

systems than turf variety grasses often planted on roadsides and in medians which contributes to healthy soil structure.

- A diverse plant community is much healthier and more environmentally sustainable than a monoculture of turf.
- Diverse native plantings provide many more habitat opportunities than turf or nonnative ornamentals.
- Natives, once established, are self-sustaining and the number of mowings per year can be significantly reduced, saving time and money and lessening VDOT's carbon footprint!

How is the Program Funded?



Currently, the Pollinator Habitat program is funded through the purchase of the WILDFLOWER license plate. Unfortunately, the newly minted pollinator plate does not support this program, but that may change in the next few years. Partners also provide funding, labor and materials to the program.

Our current partners list includes:

Virginia Dominion Power/Dominion Trust
PBS Films
Valley Land
White House Office of Science & Technology
Loudoun Wildlife Conservancy
Virginia Native Plant Society

What's Next for the Pollinator Habitat Program?

Plans are to take the PHP statewide, focusing on naturalized gardens and meadows at state rest areas for the next year. Interpretive signage is being developed for current areas in an effort to educate the public about the program, its purpose and how to help.

Want to Learn More?

White House Memorandum & Information on Pollinators.

<https://www.whitehouse.gov/the-press-office/2014/06/20/presidential-memorandum-creating-federal-strategy-promote-health-honey-b>

<https://www.whitehouse.gov/sites/default/files/microsites/ostp/Pollinator%20Health%20Strategy%202015.pdf>

https://www.whitehouse.gov/sites/default/files/microsites/ostp/pollinator_research_action_plan_2015.pdf

Attracting Pollinators to your Garden.

<http://www.fws.gov/pollinators/pdfs/PollinatorBookletFinalrevWeb.pdf>

<http://www.motherearthliving.com/gardening/attract-pollinators-to-your-garden.aspx>

<http://www.fs.fed.us/wildflowers/pollinators/documents/AttractingPollinatorsV5.pdf>

<http://www.fs.fed.us/wildflowers/pollinators/gardening.shtml>

Native Plants.

<http://www.dcr.virginia.gov/natural-heritage/nativeplants>

This is a great ID guide!

http://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/nypmctn11164.pdf