

Augmenting Both Managed and Native Pollinators

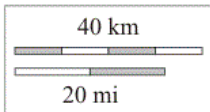
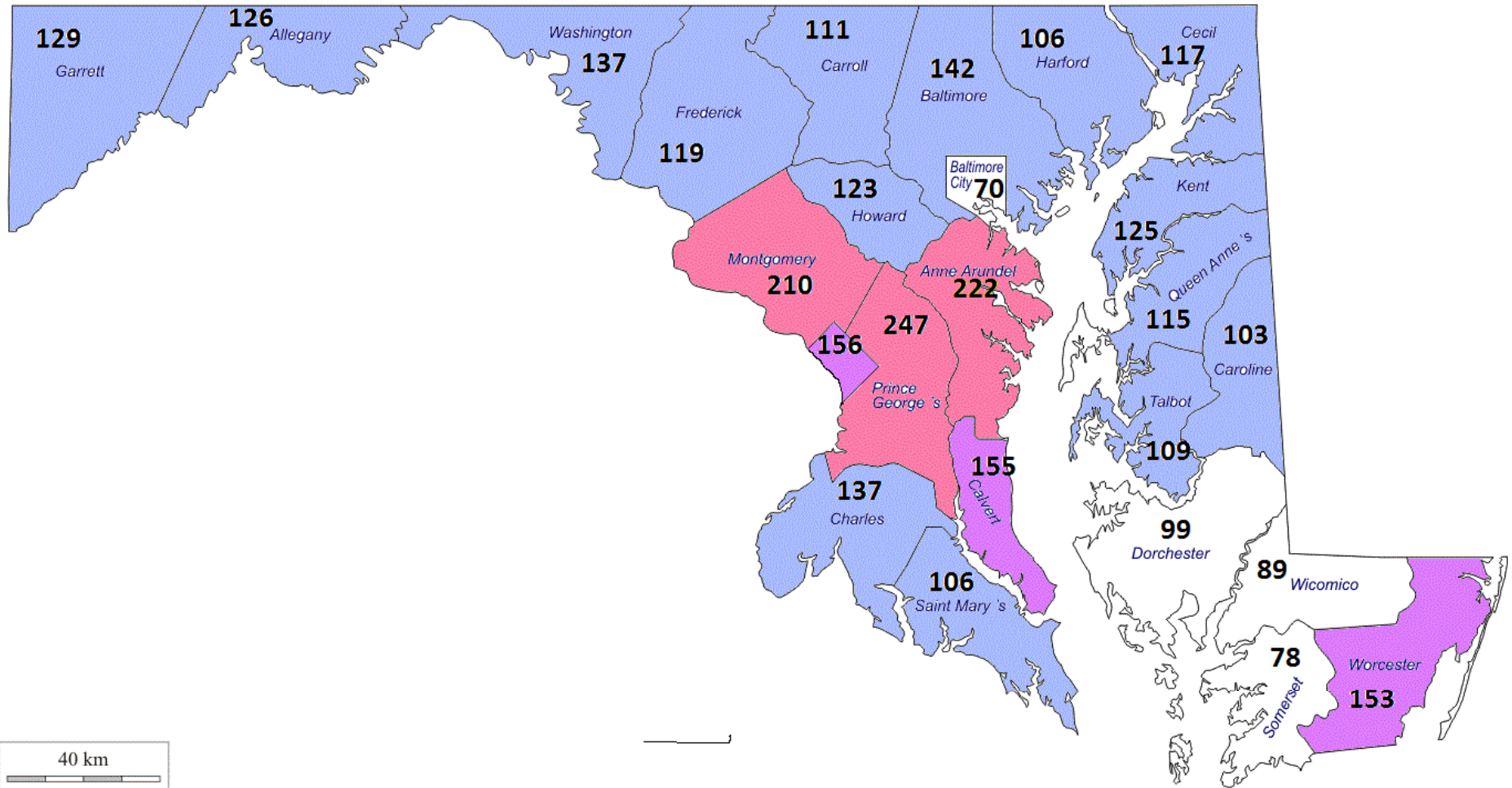
Its All About Using Native Plants





425+ Managed Maryland Bees

Bee Species Total By County



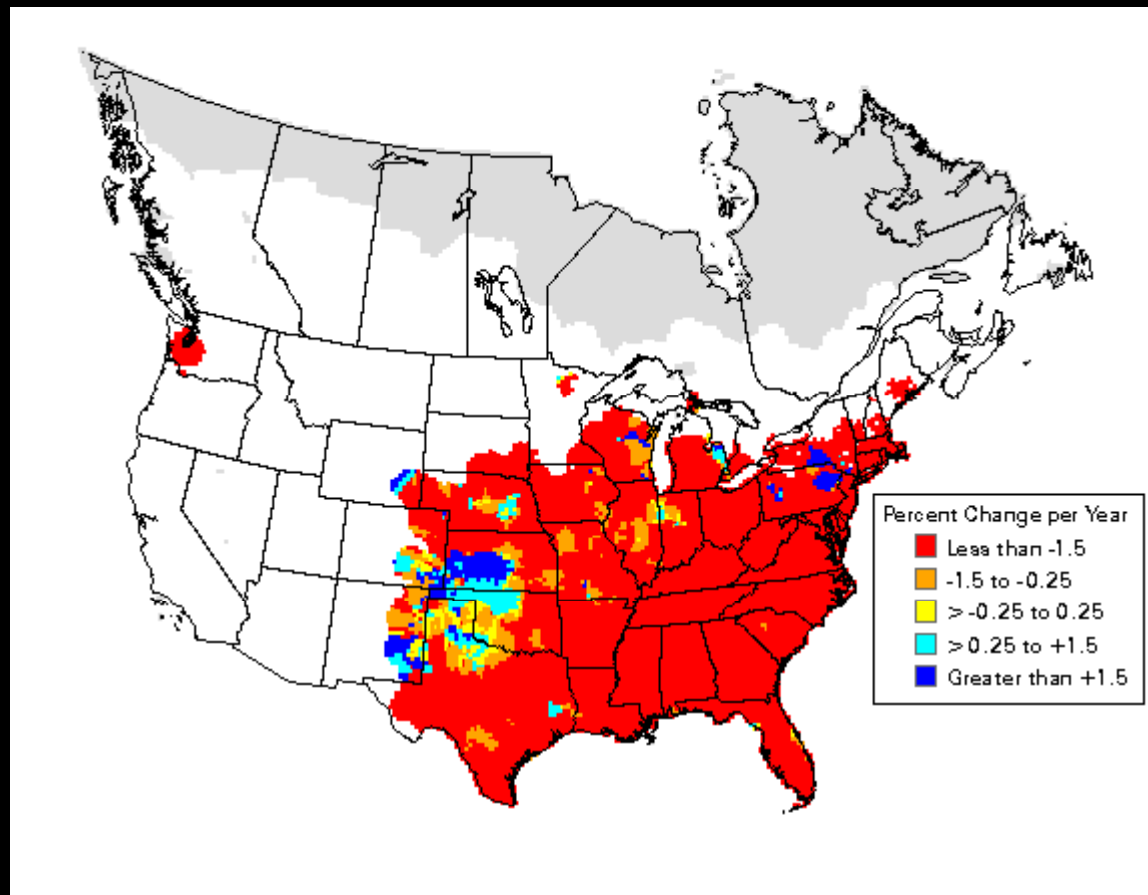


100+ Species Capacity at
Any Location



Most Native Bees Do Not/Can
Not Sting

The Current Pollinator Situation: Ask the Bobwhite





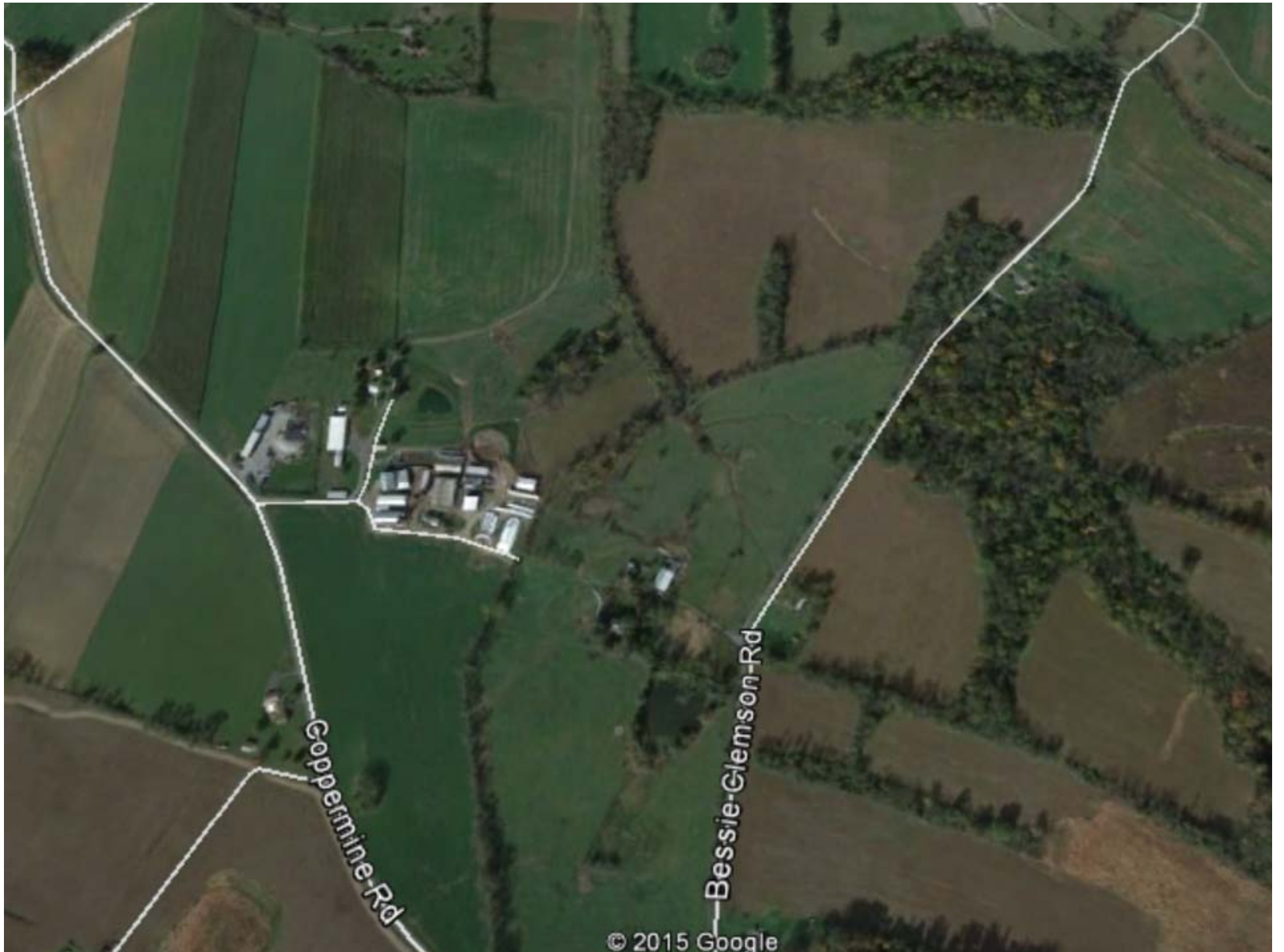
Neonicotinoids – Native
Bees at Risk Too



Honey Bees are from Mars
Native Species Little Impacted
By Honey Bee Pathogens/Pests



Bee Capacity?
Native Bee's Live
EVERYWHERE



An aerial photograph of a rural landscape. A road runs vertically through the center, with a junction at the top. To the left of the road is a wet meadow area with dark, saturated soil and some water. To the right is an old field with a mix of green and brown vegetation. Below the road is a narrow strip of land labeled as verges/swales. To the right of the road is a large, rectangular field with distinct rows, labeled as field edges. The bottom of the image features a large red text overlay.

Wet Meadows

Old Fields

Field Edges

Verges/Swales

Feed Them With Flowers



Native Species Can Replace
Honey Bees for Pollination
under many circumstances



Soybean Yield Boost



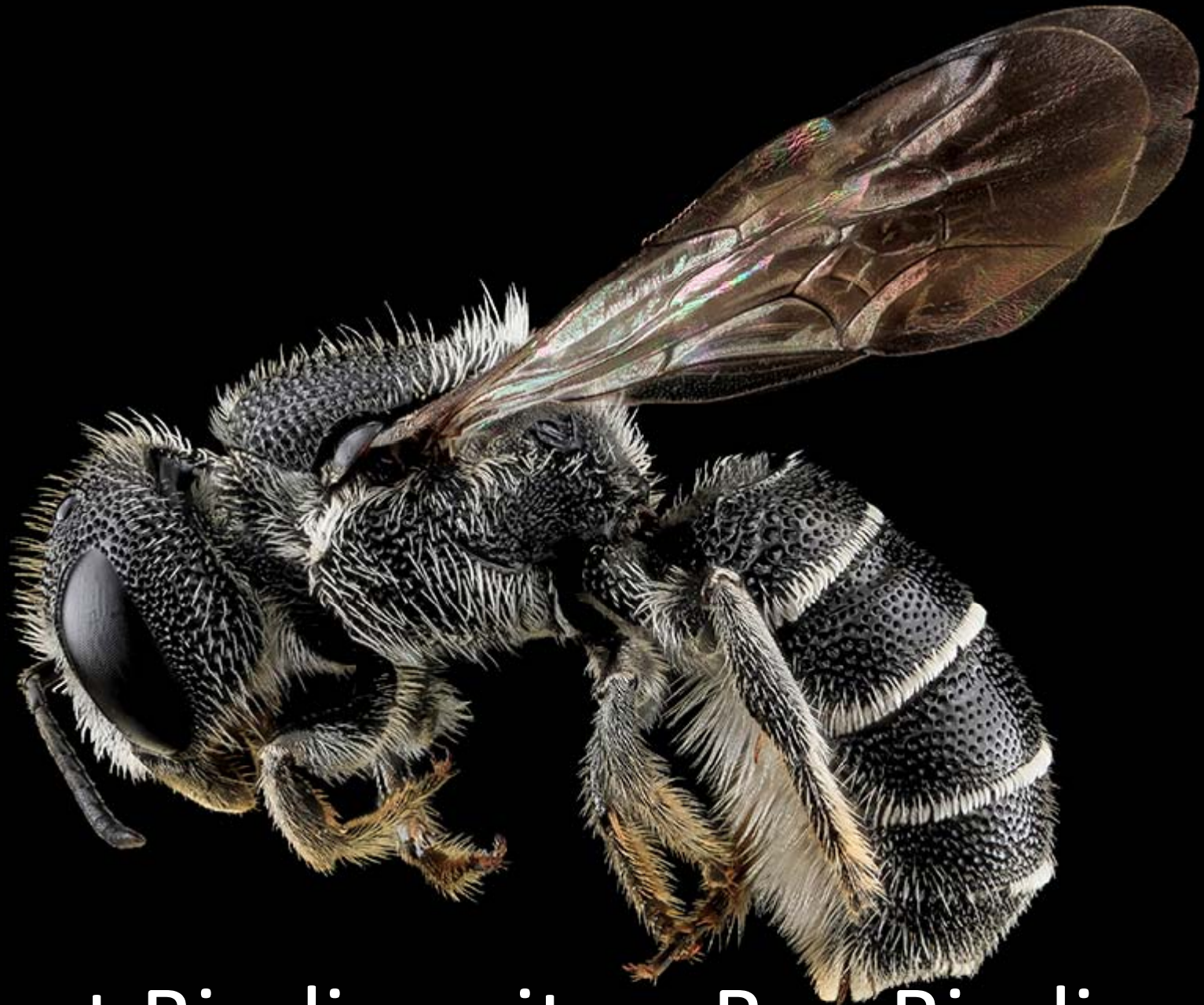
Bees Are Good at Finding
Blooming Plants



20-25% of Species are Pollen Specialists



Bees Seek Nectar from
Many Sources



Plant Biodiversity = Bee Biodiversity

Native Plant Biodiversity =
Healthy Ecosystem





Planting for Native Bees =
Planting for Honey Bees



**General Need:
Simple Survey of the Native Bees
Using Maryland Crop Plants**



Simple First Step:
Mow Once a Year in March

Second Step:
Shift ROW/Road
Sides from Cool
Season Grasses to
Forb-Dominated
Native
Landscapes



Generic Pollinator Mix

- California poppy
- **Black-eyed Susan**
- Lance-leaved coreopsis
- Scarlet flax
- Baby's breath
- Bachelor button
- Firewheel
- Dames rocket
- Blanket flower
- Baby snapdragon
- Purple coneflower
- Plains coreopsis
- Lewis blue flax
- Red Mexican hat
- Yellow Prairie Coneflower

Maryland Honey Bee Forage

- Russian Sage
- Cone Flower
- Vitex
- Golden Rain Tree
- Blue Mist Shrub
- Winter
- Lavender
- Anise Hyssop
- Greek Oregano
- Buckwheat
- Sunflower
- Alfalfa
- Basil
- Common Dandelion
- White Clover
- Common Motherwort
- Vipers Bugloss
- Mountain Mint
- Field Mustard
- Purple Dead Nettle
- Jewelweed
- Skunk Cabbage

Ernst/Xerces Seed Mix

- Anise hyssop
- Blue false indigo
- Boneset
- Common Milkweed
- Giant sunflower
- Lanceleaf coreopsis
- Mistflower
- Narrowleaf mountain mint
- New England aster
- Ohio spiderwort
- Partridge pea
- Purple coneflower
- Showy goldenrod
- Spiked gayfeather
- Tall white beardtongue
- Wild bergamot

Third Step: Plant Meadows not Trees





Fourth Step: Replace Lawnscaapes



One Mower Deck Best Practice:
Mow edge of Lawnscaapes only
Once per Year



Step 5: Meet Each Year to Share
Ideas and Experiences



Non-Native Plants: Bird Feeding

Bees Live in Woodlands



Flickr: USGSBIML: All CC

No Boundaries



Sam Droege – sdroege@usgs.gov