

Protecting the Life that Sustains Us



*Ann Barklow, Bee City USA Greenwood Liaison
Retired Horticulturist, City of Greenwood, SC*

Greenwood *in Bloom*



- No nesting areas for birds
- No pollen or nectar
- Noise and Air Pollution from power equipment
- Excessive green waste from pruning
- Large open areas for weeds to sprout
- Expensive labor intensive mulching
- Use of oil and gas for equipment
- Boring and repetitive work
- No place for songbirds to hide in to escape hawks and other predators
- Excessive herbicide use
- Back injury type of work



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- Pollen and nectar
- No Pollution from power equipment
- Divisions of plants for cost reduction
- Areas covered with plants for weed prevention
- Mulching with leaves, a free resource and protective shelter for stages of moths, butterflies, and other insects
- No oil or gas needed to maintain
- Exciting and meaningful work
- Fun and rewarding
- Reduction of herbicide use
- Volunteer magnet



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Native Bee Balm-Monarda didyma

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Echinacea 'Magnus' - Native Perennials

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Solidago 'Fireworks' for Fall -Native

- Policy for Integrated Pest Management
- Priority to protect people, wildlife, and the environment
- Emphasize practices to minimize the risk to human health and nature.
- Reduce and eliminate, where possible, chemical pest control treatments.
- Purchase plants from reputable nurseries that do not use toxic pesticides
- Plants that attract beneficials



Ammi majus 'Green Mist'-Pest Control

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Continuing education

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- Remove heavily infested plants from greenhouse.
- Spray with non toxic soaps and oils for mild outbreaks.
- Scouting, scouting and more scouting
- Release beneficial insects several times a year.
- Prevention by keeping doors closed and disinfecting greenhouses.



Pest Scouting in Greenhouses

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- Flame weeds
- Stand up weed puller
- Cover bare soil with plants
- Mulch
- Weeding Wednesdays with volunteers
- Adopting areas by

vo



*Happy Volunteer with
Stand up weed puller!*



Flaming Weeds

*You Tube video
Greenwood Horticulture*



*Video teaching
alternatives to herbicides*



Hori hori gang.

Other Dangers for Pollinators

**Fogging for
Mosquitoes in
the 70's and now**



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You Tube video
Greenwood Horticulture



We Go On the Road Educating

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Teaching Kids at Festivals
and schools



S.W.A.T. Standing Water Attack Team

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Have a class and film a video



"How are we going to divide all these plants?"

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You Tube video
Greenwood Horticulture



This is how you excite your community into action

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- Starting with the young to teach about insects
- Excite and Galvanize the community by educating others



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- Monarch Conservation in Greenwood teaching at the Clemson Extension office.



- Excite and Galvanize communities by educating others



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- Two Monarch Waystation
- Well over 500 milkweed plants in the City
- Volunteers all grow milkweed
- OUR EFFORTS HELP!



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Why should we care?



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Where did all the bugs go?



“The Little Things that Run the World”

E.O. Wilson, Pulitzer Prize Winning Scientist and Naturalist

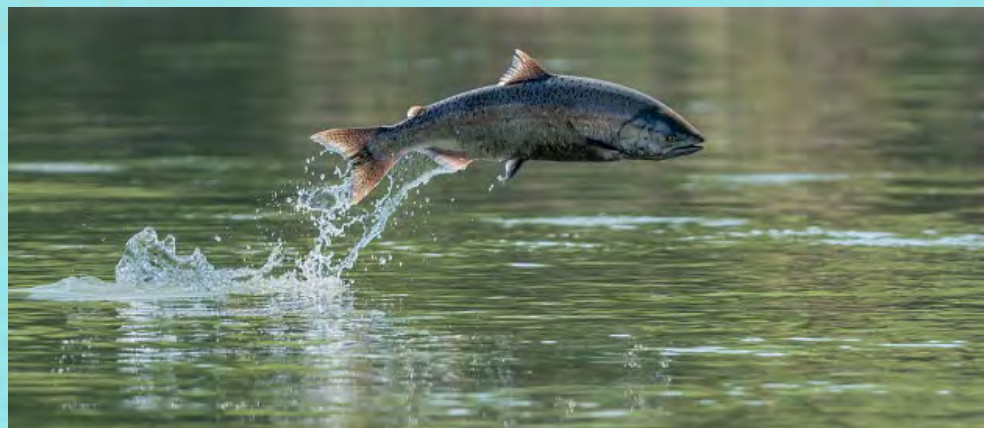
If Insects were to disappear

1. We would lose our pollinators
2. We would then lose our flowering plants
3. Food Webs (what eats what) would disappear
4. We would lose mammals, birds, reptiles, amphibians, freshwater fish, and humans
5. Earth would start to rot because the insect decomposers have died
6. This would result in an ecological disaster of massive unprecedented size.

Without Insects Bears would Die



Bears need Salmon and Berries to Sustain themselves



Salmon need Insects



Berries need Pollinators

What Residents learn from us

Before...

- . Labor intensive
- . Not enjoyable
- . No natives
- . Few pollinator sources or habitat for wildlife
- . No protein for baby birds-caterpillars



We teach them and look!!!

- Living, thriving, moving ecological system
- Enjoyable
- Peaceful
- Many pollinator sources and habitat for wildlife
- Protein for baby birds-caterpillars and worms
- Hummingbird Sanctuary
- Lots of spiders for organ pipe wasp and hummingbirds



Countryside Aster, Cleome, Pineapple Sage, and Purple Salvia

Current Landscape Practices are reducing habitat for nature



Create Useful and Meaningful Gardens

Leave the Leaves! Food and Shelter for Insects



Teaching Videos

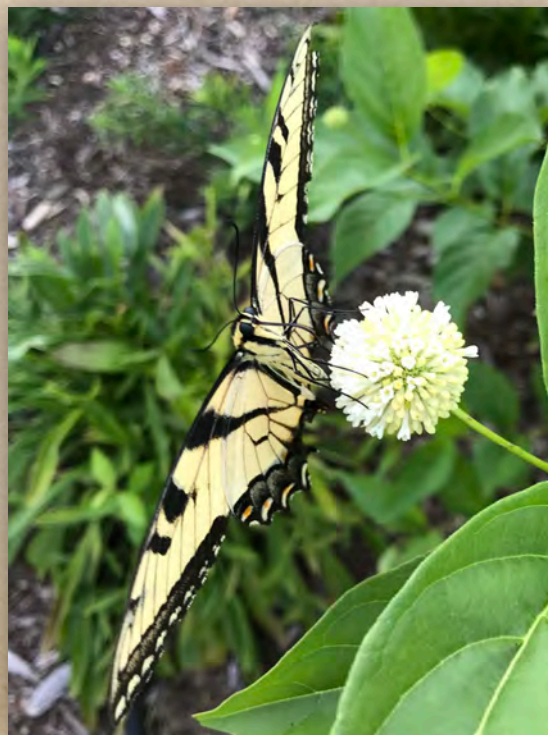


This
landscape
can be a
chore with
boring and
repetitive
tasks

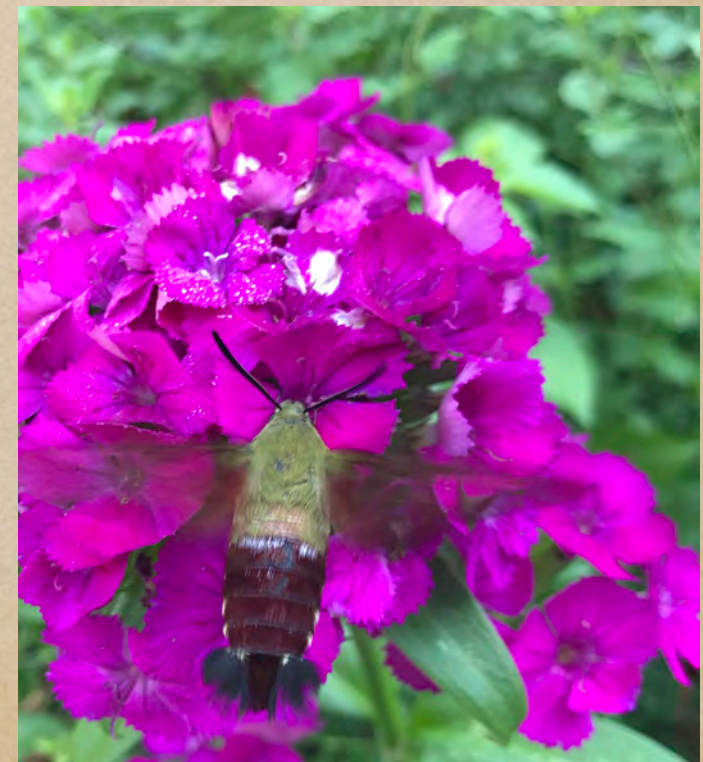
A landscape can be a Emotional Experience instead of a chore



Monarchs love Tithonia

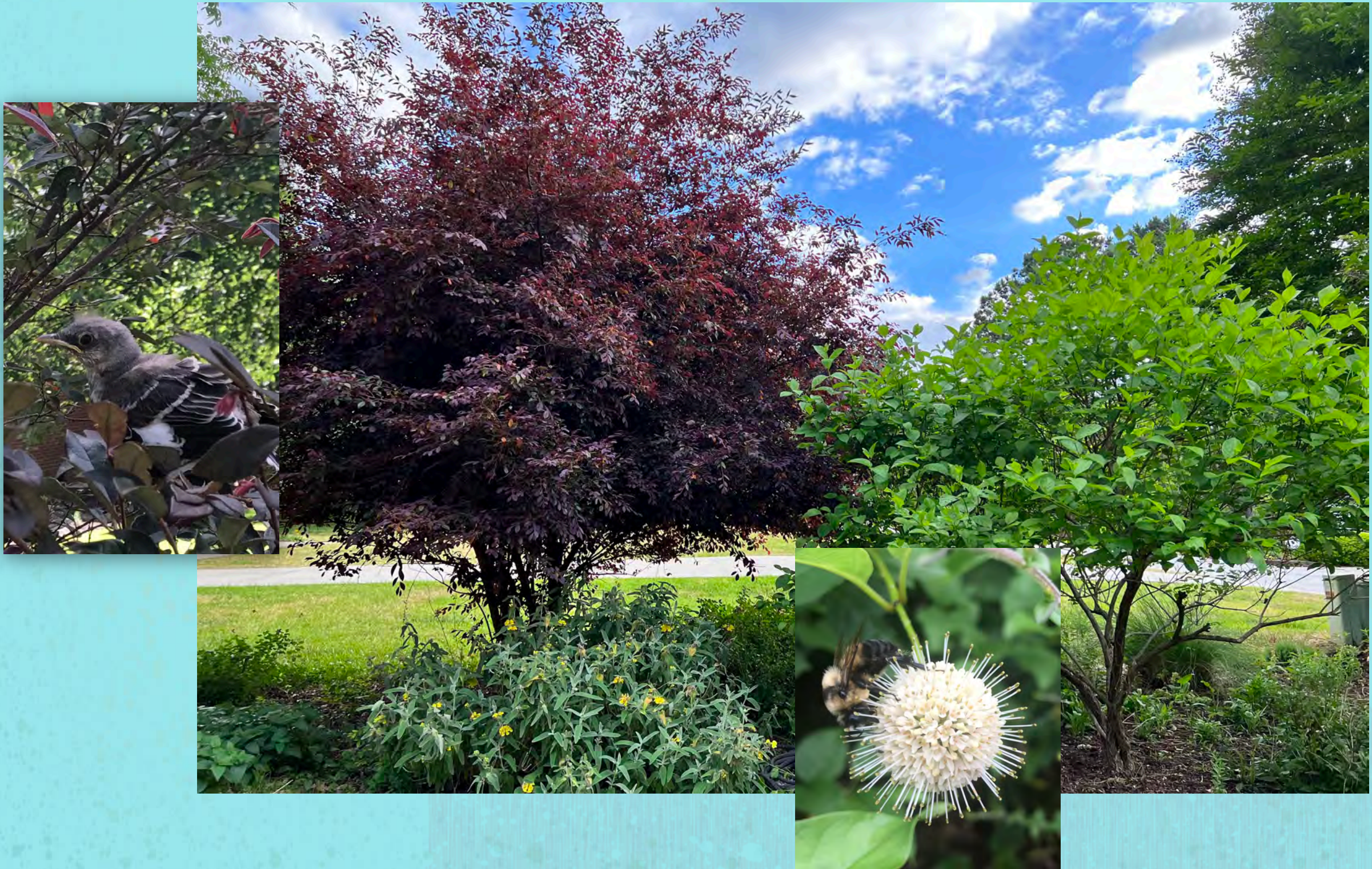


Buttonbush-Native



Dianthus- Hummingbird Moth

Loropetalum and Cephalanthus 'Buttonbush' pruned into small trees





Practice Ecological Horticulture

Life cycle of the monarch

Once you know their chrysalis and caterpillar stage and timing you need to be cautious working in the garden.

Alter your gardening practices to better support that wildlife.





Why Ecological Horticulture?

We have lost 45% of arthropods (insects,



Oleander aphids
Lacewing larva eggs



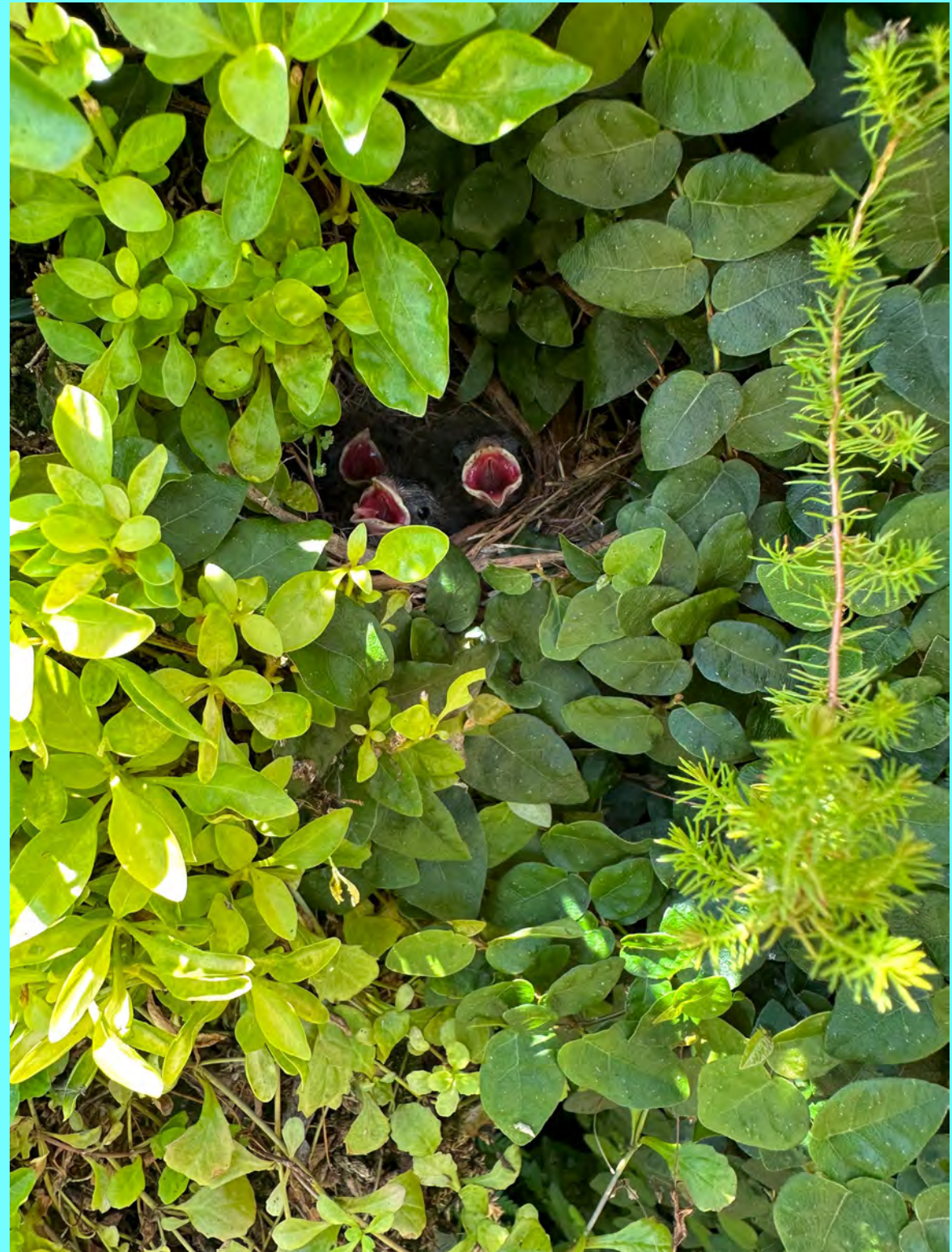
Long horned beetle
rare and first reported in 1758

Let pest pressure build up



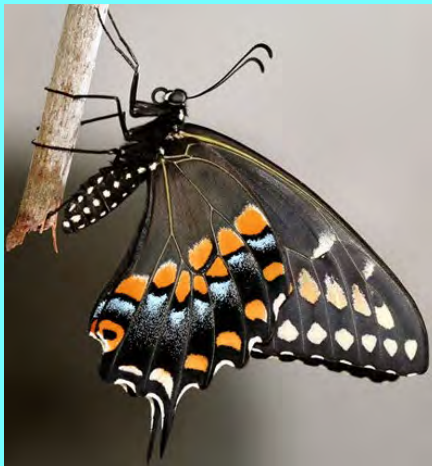
Why Ecological Horticulture?

In the past 35 years.
North America has lost a





Incorporate quality
wildlife habitat into cities



Eastern Black Swallowtail

An Exciting Time in Horticulture

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Help Communities Flourish

- Attracting Tourist and New Residents
- Stimulates economic development
- Creates a thriving place for people to live, work, play, visit, and serve



Front Page News

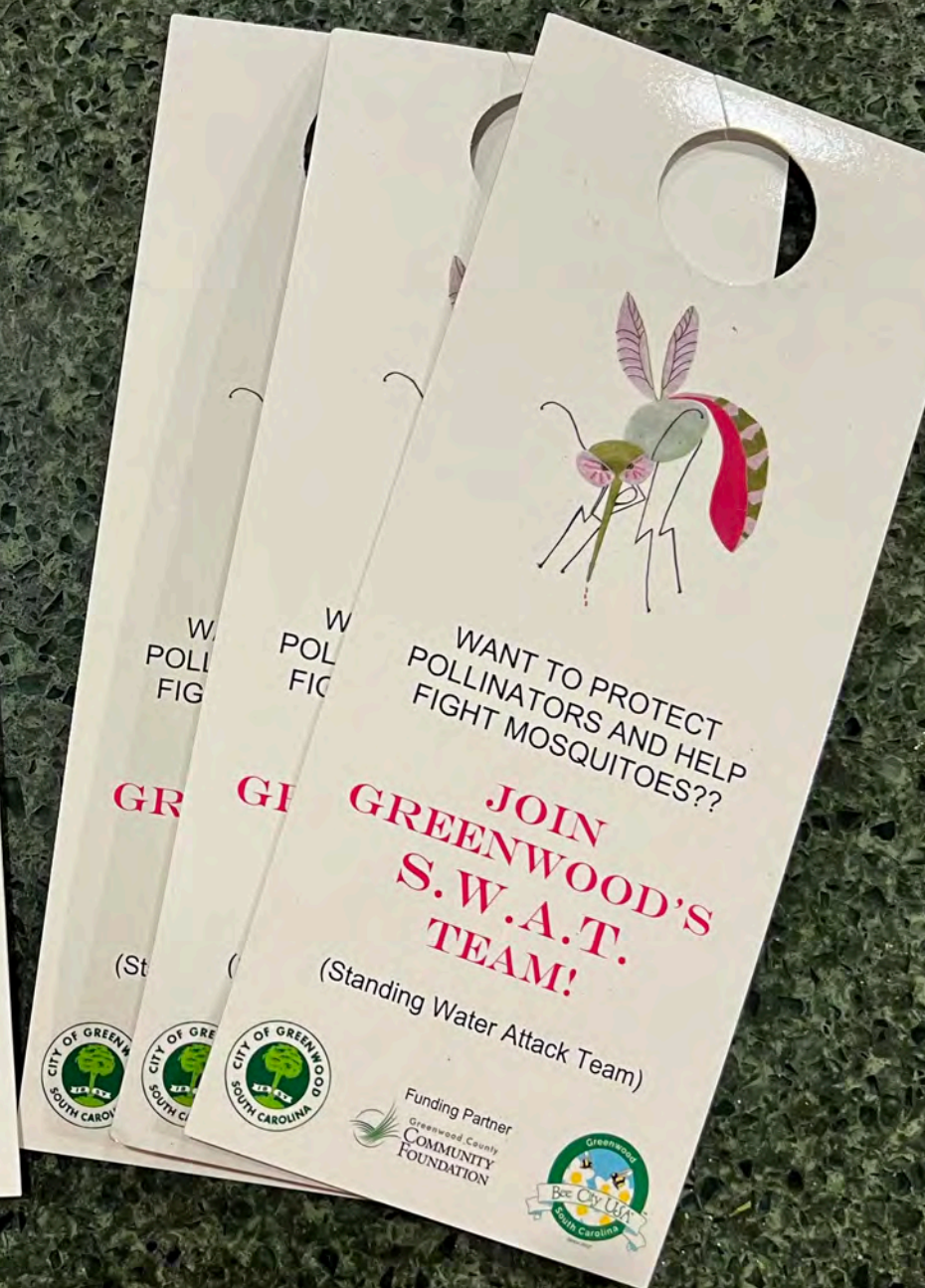
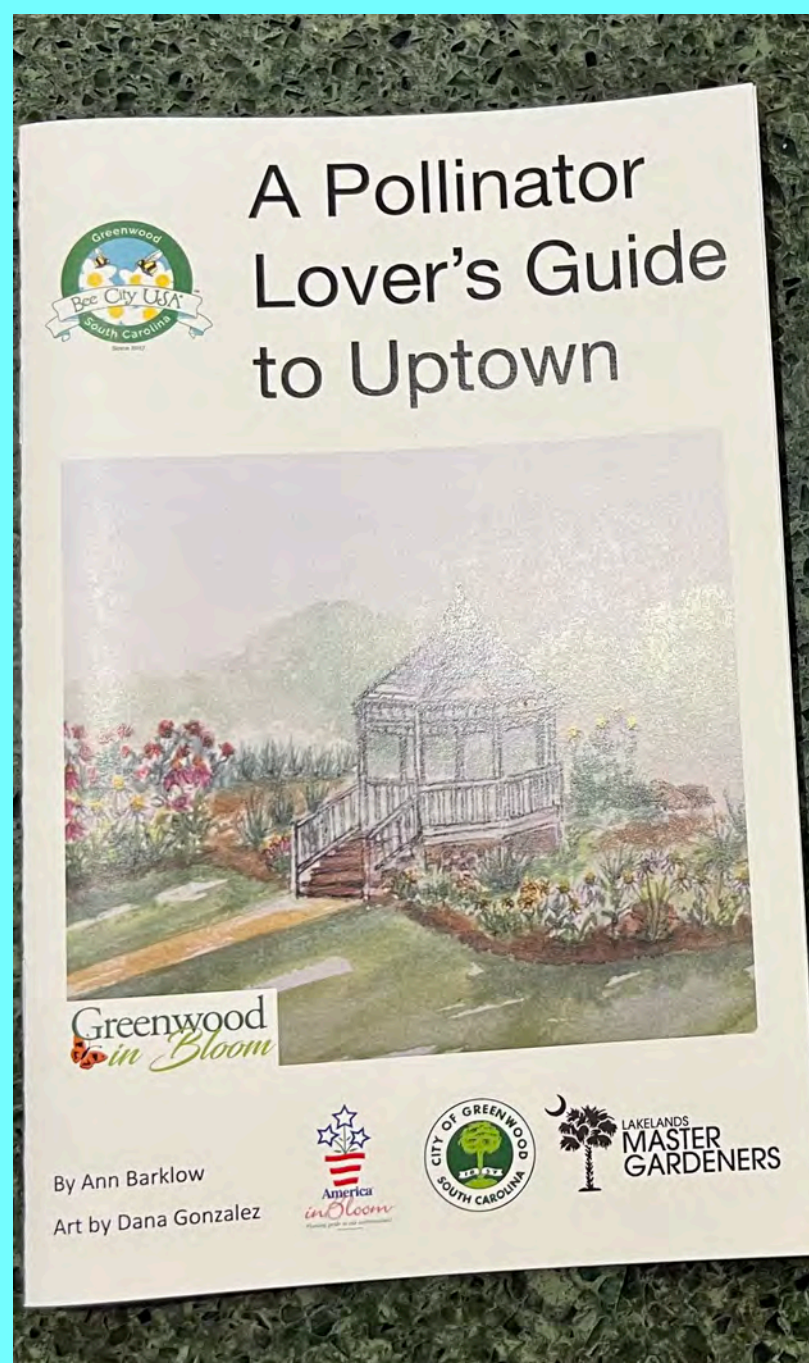
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Dana Gonzalez

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The Xerces Society logo consists of a large stylized 'X' followed by the text "XERCES SOCIETY" and "for Invertebrate Conservation" below it.

SIMPLE STEPS FOR BUYING BEE-SAFE PLANTS

- 1** Seek out organic plants and seeds.
- 2** Avoid plants grown with neonicotinoids and other similar systemic insecticides.
- 3** Ask what steps your nursery takes to offer plants grown using pollinator-friendly pest management.

PHOTO: XERCES SOCIETY / SHARON SELVAGGIO

A close-up photograph of a bumblebee with black and orange stripes on its abdomen, perched on a large, vibrant purple flower. The background is a soft-focus green.

Bee City Provides free handouts and
Powerpoint Presentations



Greenwood SC Horticulture

Social Media to bring
everyone together



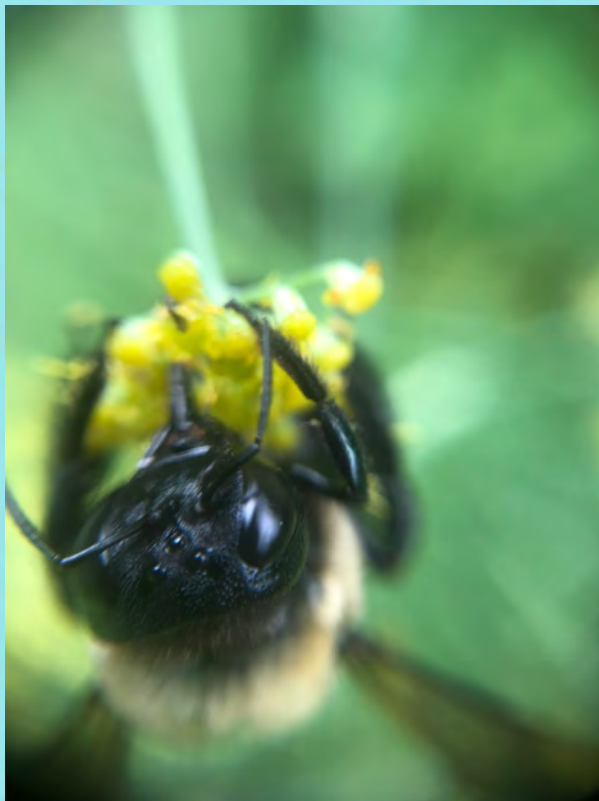
Oak Avenue Pollinator Rain Garden
From Passenger Depot to Pollinator Depot



What's blooming and what we saw this week

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- Huge support from City Council and City Government
- Yearly proclamation to celebrate National Pollinator Week along with educating others



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Conservation in Action

- Monarch Larva Monitoring Project
- Our largest pollinator Garden
- University of Minnesota can determine the health of the monarch populations



Master Gardeners, Kathy Watkins
and Susu Wallace

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Help Communities Flourish

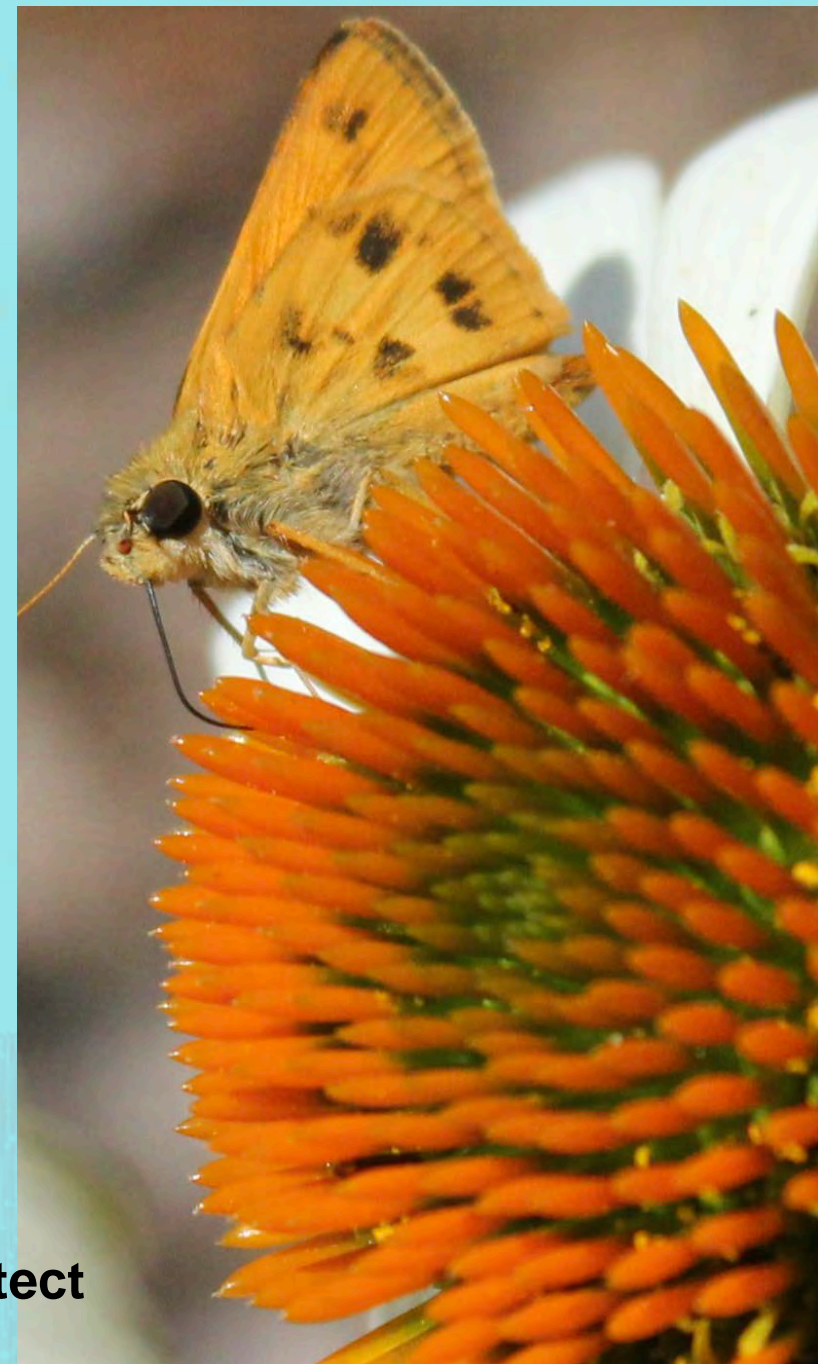
- Clean and Healthy Environments
- Community Vitality

From meatball shrubs to a
Living Classroom



All day class on beneficial insects held by Department
of Natural Resources and Xerces Society

We Need to Understand the Insects we are Trying to Protect



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Educational Sign at
Oak Avenue Pollinator Rain Garden

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Training them early.

Local universities, local heritage and history experts, city and county environmental specialists, horticulturists, business owners, garden club representatives, city department supervisors, visitors center, chamber of commerce, museum curators

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City of Greenwood Horticulture Team!

WE LOVE!



Questions

