



Can you name this pollinator and plant? See last page for the answer.

Louisiana Natural Areas Registry Quarterly Newsletter

June 2011

Volume 8

Number 4 of 4



Working with Landowners towards
Conservation of Louisiana's Native Habitats

<http://www.wlf.louisiana.gov/wildlife/natural-areas-registry-program/>

Louisiana Department of Wildlife and Fisheries

Louisiana Conservationist available online free at link <http://louisianaconservationist.org/>

Pollinator Conservation

Pollinators are necessary for the reproduction of nearly 70 percent of the world's flowering plants, including more than two-thirds of the world's crop species. The United States alone grows more than one hundred crops that either need or benefit from pollinators, and the economic value of these native pollinators is estimated at \$3 billion per year in the U.S. Beyond agriculture, pollinators are keystone species in most terrestrial ecosystems. Fruits and seeds derived from insect pollination are a major part of the diet of approximately 25 percent of all birds, and of mammals ranging from red-backed voles to grizzly bears. In many places, the essential service of pollination is at risk from habitat loss, pesticide use, and introduced diseases.

Managing Habitat for Pollinators

Native pollinators clearly help with crop pollination, yet many agricultural areas lack the habitat necessary to support native pollinators. Proximity to natural or semi-natural land is often an important predictor of pollinator diversity in cropland. For agricultural areas that have lost native pollinators due to habitat modification or pesticide treatments, adjacent natural areas provide two valuable benefits. First, they are a source of pollinators for crop pollination. Second, they act as refugia for pollinators that can recolonize degraded agricultural areas. "[Guidelines: Pollinators in Natural Areas](#)" written by Scott Hoffman Black, Nathan Hodges, Mace Vaughan and Matthew Shepher is an in-depth guideline for managing pollinators in natural areas that is available on the web site.

Another valuable resource is the [Yolo Natural Heritage Program \(NCP/NCCP\) Pollinator Conservation Strategy](#). Written by Xerces Society scientists, this first-of-its-kind conservation strategy summarizes the threats facing native bees and identifies conservation measures that can be taken within diverse landscapes, including agriculture, grasslands, woodlands, shrubland, riparian, and urban.

Management tools, such as grazing, fire, and mowing, can be used in a manner that benefits pollinators. The use of insecticides and herbicides can be harmful to pollinators; if they must be used; there are a few considerations to minimize their impact on pollinators.

GRAZING

Consider timing, duration and intensity. A diverse pollinator population requires adequate nectar and pollen sources from early spring to early fall, which makes seasonal timing a key consideration for an effective grazing plan. Management should be adjusted to maintain the majority of the floral resources throughout the seasons. Also, grazing should be avoided when butterfly larvae or adults are active, as it can result in direct mortality. Grazing periods should be short to allow for adequate recovery of the habitat. Herd sizes should be moderate to light.

FIRE

Consider scale and refugia. While prescribed burning has a role to play in long-term maintenance of pollinator habitat, it can also have catastrophic impacts on pollinators. To minimize negative impacts, a single fire should not burn an entire area of pollinator habitat. Ideally, a program of rotational burning in which small sections—30 percent of a site or less—are burned every few years will ensure adequate colonization potential and refugia for insects.

MOWING

Consider technique, timing and scale. Mowing can cause direct insect mortality, especially for egg or larval stages that can't avoid a mower. Ideally, mowing should occur in the fall or winter when flowers have died or are dormant. Mowing a mosaic of patches over several years is better than mowing an entire site all at once; no single area should be moved more than once a year.

HERBICIDES

Consider application method and active ingredient. While herbicides can be an important management tool, broadcast applications of non-selective herbicides can reduce important floral resources. To avoid herbicide damage to nontarget plants and associated pollinators, avoid broadcast spraying or pellet dispersal, which may kill large numbers of larval hostplants or adult forage plants. Instead, spot treat with a backpack sprayer, allowing for selective control.

INSECTICIDES

Consider application method, product formulation, and timing. Insecticides used on forests, rangelands and farms can severely impact pollinator populations. In situations where insecticides must be used, it is best to avoid spraying when flowers are in bloom. Choose less harmful formulations—in general dusts and microencapsulated insecticides are the most dangerous formulations for bees, and aerial spraying is the most harmful method of application. Sprayed solutions and large granules tend to be less harmful to pollinators. Pay attention to the potential presence of butterfly host plants in the management area and avoid spraying them.

Oregon State University, Washington State University and the University of Idaho Extension have developed a comprehensive guide, available as a pdf: [How to Reduce Bee Poisoning from Pesticides](#).

References:

The Xerces Society for Invertebrate Conservation at web site <http://www.xerces.org/>

Pollinators in Natural Areas: A Primer on Habitat Management by Scott Hoffman Black, Nathan Hodges, Mace Vaughan and Matthew Shepherd. July 2007.

Honey Bee (*Apis mellifera*)

Honey Bee (*Apis mellifera*), in photo at right, taken by David Cappaert, showing swollen pollen sacs. Mellifera is Latin for “honey-bearing” or “honey-carrying”. Identification for this species includes hairy eyes, pollen carried in a ball on the legs, and a long radial cell near the front wingtip. Pollen is most important in feeding the larvae. The vast majority of individuals seen will be females (workers), while sightings of males (drones) are relatively infrequent. The males are significantly bigger and have notably larger eyes which touch at the top of the head. The honeybee is the official Louisiana state insect. Honey has been collected in Louisiana since before it became a state in 1812. In the 19th century, some of Louisiana’s big plantations produced thousands of pounds of honey each year. Today, not only are thousands of pounds of honey collected every year in Louisiana, but queen bees bred in Louisiana are sent all over the United States to raise bee colonies.

REFERENCES:

Species *Apis mellifera* – Honey Bee at web site <http://bugguide.net/node/view/3080>

Tree of Life Web Project. 2004. Apinae. Honey bees, orchid bees, stingless bees, etc. at <http://www.tolweb.org/Apinae/>

State Symbols USA for Louisiana at web site

http://www.statesymbolsusa.org/Louisiana/insect_honeybee.html

Potential Species to Establish Pollinator Habitat	
* Plants that may be somewhat difficult to find at nurseries but are excellent pollinator plants that should be mentioned.	
Woody Species	
American Beautyberry (<i>Callicarpa americana</i>)	Swamp Dogwood (<i>Cornis foemina</i>)
Arrowwood (<i>Viburnum dentatum</i>)	Yaupon (<i>Ilex vomitoria</i>)
Bitternut Hickory (<i>Carya cordiformis</i>)	Herbaceous Species
Black Cherry (<i>Prunus serotina</i>)	Bee Balm (<i>Monarda</i> species)
Black Locust (<i>Robinia pseudoacacia</i>)	Black - eyed Susan (<i>Rudbeckia</i> species)
Black Walnut (<i>Juglans nigra</i>)	Milkweed (<i>Asclepias</i> species)
Black Willow (<i>Salix nigra</i>)	Cardinal Flower (<i>Lobelia cardinalis</i>)
Blackberry (<i>Rubus</i> species)	Tickseed (<i>Coreopsis</i> species)
Boxelder (<i>Acer negundo</i>)	Goldenrod (<i>Solidago</i> species)
Buttonbush (<i>Cephalanthus occidentalis</i>)	Purple Coneflower (<i>Echinacea purpurea</i>)
Crab Apple (<i>Malus</i> species)	Blazing Star (<i>Liatris</i> species)
Deciduous Holly (<i>Ilex decidua</i>)	*Joe - pye weed (<i>Eupatorium fistulosum</i>)
Dewberry (<i>Rubus trivalis</i> species)	Bee Blossom (<i>Gaura</i> species)
Eastern Redbud (<i>Cercis canadensis</i>)	Annuals
Elderberry (<i>Sambucus nigra</i> ssp. <i>canadensis</i>)	Common Sunflower (<i>Helianthus</i> species)
Flowering Dogwood (<i>Cornus florida</i>)	*Partridge Pea (<i>Chamaecrista fasciculata</i>)
Honey Locust (<i>Gleditsia triacanthos</i>)	*Thistle (<i>Cirsium</i> species)
Mayhaw (<i>Crataegus</i> species)	Vines
Mockernut Hickory (<i>Carya tomentosa</i>)	*Passion Flower (<i>Passiflora incarnata</i>)
Pawpaw (<i>Asimina</i> species)	Coral Honeysuckle (<i>Lonicera sempervirens</i>)
Persimmon (<i>Diospyros virginiana</i>)	Carolina Jasmine (<i>Gelsemium sempervirens</i>)
Plum (<i>Prunus</i> species)	Perennial Grasses
Rabbiteye Blueberry (<i>Vaccinium ashei</i>)	*Indian Grass (<i>Sorghastrum nutans</i>)
Red Mulberry (<i>Morus rubra</i>)	*Switchgrass (<i>Panicum virgatum</i>)
Shagbark Hickory (<i>Carya ovata</i>)	*Little Bluestem (<i>Schizachyrium scorparium</i>)
Winged Sumac (<i>Rhus copallinum</i>)	*Eastern Gamagrass (<i>Tripsacum dactyloides</i>)
1. Conservation Stewardship Activity, Plant Enhancement Activity PLT01 – Establish Pollinator Habitat for Louisiana Criteria.	
2. Establishing Native Habitats for Mississippi’s Native Pollinators. April 30, 2009. Mississippi Chapter of the Soil and Water Conservation Society. http://www.plant-materials.nrcs.usda.gov/pubs/mspmtcn9081.pdf	



How NRCS Is Helping Pollinators



NRCS recognizes the importance of pollinators to U.S. biodiversity and food security and addresses pollinator issues in a number of different ways.

Farm Bill: The Food, Conservation, and Energy Act of 2008—also known as the Farm Bill — authorizes a range of incentive-based conservation programs on agricultural land. Many of these programs rely on conservation practices that can be used to create or improve pollinator habitat. Also, language in the 2008 Farm Bill makes pollinators and their habitat a priority for every USDA land manager and conservationist. Farmers who create or enhance pollinator habitat as part of the **Environmental Quality Incentive Program (EQIP)** receive special consideration for financial incentives. Other NRCS programs reauthorized under the 2008 Farm Bill already offer many opportunities for landowners to conserve and create habitat for pollinators. These programs include **Conservation Reserve Enhancement Program (CREP)**, **Conservation Reserve Program (CRP)**, **Conservation Stewardship Program (CSP)**, **Grassland Reserve Program (GRP)**, **Wetland Reserve Program (WRP)**, and **Wildlife Habitat Incentive Program (WHIP)**. These opportunities include the types of plants used in conservation practices like cover crops and riparian buffers and considerations for the protection of existing pollinators and their habitat.



North American Pollinator Protection Campaign: NRCS is a partner in the North American Pollinator Protection Campaign, with over 150 other state and federal agencies, non-profit organizations, and corporations. This alliance assists with the coordination of pollinator research, conservation, education, and policy in the U.S., Canada and Mexico.

Plant Materials Program: Animal pollinators are needed for the reproduction of 90% of flowering plants and one third of human food crops. Pollinators include bees, butterflies, moths, beetles, flies, birds, and bats. Each of us depends on pollinators in a practical way to provide us with the wide range of foods we eat. In addition, pollinators are part of the intricate web that supports the biological diversity in natural ecosystems that helps sustain our quality of life. Abundant and healthy populations of pollinators can improve fruit set and quality, and increase fruit size. In farming situations this increases production per acre. In the wild, biodiversity increases and wildlife food sources increase. The NRCS-Plant Materials Program is working to select plants and provide recommendations on plants which will enhance pollinator populations throughout the growing season. These wildflowers, trees, shrubs, and grasses are an integral part of the conservation practices that landowners, farmers and ranchers install as part of their conservation plan.

References:

Natural Resources Conservation Service at web site http://www.nrcs.usda.gov/pollinators/NRCS_Pollinators.html

Using Farm Bill Programs for Pollinator Conservation. Technical Note No. 78, August 2008. USDA NRCS. Produced by NRCS National Plant Data Center, The Xerces Society for Invertebrate Conservation, and San Francisco State University.



Photo by Matt Pardue of a Ruby-throated Hummingbird at Lake Martin in St. Martin Parish

The Conservation Stewardship Program (CSP), available through the Natural Resources Conservation Service (NRCS), is a voluntary program that encourages agricultural and forestry producers to address resource concerns by (1) undertaking additional conservation activities and (2) improving and maintaining existing conservation systems. CSP provides financial and technical assistance to help land stewards conserve and enhance soil, water, air, and related natural resources on their land. The NRCS will make CSP available nationwide on a continuous application basis.

CSP is available to all producers, regardless of operation size or crops produces, in all 50 states, the District of Columbia, and the Caribbean and Pacific Island areas. Eligible lands include cropland, grassland, prairie land, improved pastureland, rangeland, non-industrial private forest lands, agricultural land under the jurisdiction of an Indian tribe, and other private agricultural land (including cropped woodland, marshes, and agricultural land used for the production of livestock) on which resource concerns related to agricultural production could be addressed.

The State Conservationist, in consultation with the State Technical Committee and local work groups, will focus program impacts on natural resources that are of specific concern for a State, or the specific geographic areas within a State. Applications will be evaluated relative to other applications addressing similar priority resource concerns to facilitate a competitive ranking process among applicants within a State who face similar resource challenges.

The entire operation must be enrolled and must include all eligible land that will be under the applicant's control for the term of the proposed contract that is operated substantially separate from other operations.

NRCS will offer approved eligible participants:

- 1) Annual payments for:
 1. Installing and adopting additional conservation activities

2. Improving, maintaining, and managing existing conservation activities.

2) A supplemental payment on cropland to a participant receiving annual payments, who also agrees to adopt a resource-conserving crop rotation.

How to Apply: Enhancement Criteria for establishing pollinator habitat are those that establish nectar and pollen producing plants in non-cropped areas such as field borders vegetative barriers, contour buffer strips, waterways, shelterbelts, windbreaks, conservation cover, riparian forest, and herbaceous buffers.

References:

Conservation Stewardship Program at web site http://www.nrcs.usda.gov/programs/new_csp/csp.html

MYSTERY ANIMAL

The **Black Swallowtail** (*Papilio polyxenes*) is one of North America's most common butterflies. The photo on the front page was taken in Vermilion Parish among the **Abbeville Red Iris** (*Iris nelsonii*), which is found only in the Turkey Island swamp. Black swallowtail caterpillars feed on parsley, dill, fennel, and other members of the carrot family. Butterflies feed on nectar from flowers. The male displays a row of bold yellow spots, while the female's spots are faded shades of yellow and blue. To identify the Black Swallowtail, look for a pair of black dots centered in large orange circles on the inner edge of the hind wings. The caterpillars change appearance each time it molts. In the last few stages of growth, it is white and green, with black bands and



Lynette Schimming

yellow or orange spots. The caterpillar has a special gland called an osmeterium that emits a foul odor when the caterpillar is threatened. The orange osmeterium looks like a forked snake tongue. Caterpillars also ingest oils from the host plants of the carrot family: the foul taste of the chemical in their bodies repels birds and other predators. The chrysalides of the Black Swallowtail can be green or brown, depending on the color of the surface to which they are attached. This form of camouflage keeps them hidden from predators. The adult butterfly is thought to mimic the Pipevine Swallowtail, which is distasteful to predators. Black Swallowtails inhabit open field and meadows, suburban yards, and roadsides in most of North America east of the Rocky Mountains, spreading south all the way to the north tip of South America.

References:

Debbie Hadley. 2011. Blacktail Swallowtail at http://insects.about.com/od/butterfliesmoths/p/P_polyxenes.htm

William J Thibodaux. June 4, 2011. Atchafalaya Voices at <http://www.theadvertiser.com/article/20110605/LIFESTYLE/106050338/Atchafalaya-Voices>

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PREVIOUS NEWSLETTER, APRIL 2011, VOL. 8, NO. 3 OF 4. We recognized three new Natural Areas and gave an update on the total number of registered areas. An article by Harriett Pooler was presented on "It's Spring Migration" about annual bird migration to and from the Neotropics. The mystery photo was strawberry bush (*Euonymus americanus*).