CHESAPEAKE WILDLIFE HERITAGE

Habitat works

The newsletter about restoring and creating habitat for wildlife
Summer 2011

Honey bees face a myriad of diseases and problems. Noting all of the possibilities for failure of a honey bee colony, it seems a wonder that these little creatures are around at all. (Photo by Michael Robin Haggie)

Habitat Works is published by Chesapeake Wildlife Heritage, a 501(c)(3) nonprofit conservation organization dedicated to creating, restoring and protecting wildlife habitat and establishing a more sustainable agriculture, through direct action, education and research, in partnership with public and private landowners. We welcome your comments and contributions.

Bee Involved!

by Michael Robin Haggie, Agricultural Wildlife Ecologist

Don't you love honey? Isn't it the purest and most unadulterated of any of our modern farm products? A product created by semi-wild little creatures flying over bucolic meadows of wildflowers, tripping the keels of leguminous plants in Elysian fields, visiting nature's garden and gathering the nectar of the Gods to feed their young and producing in abundance an ambrosia that we, humans, can harvest and enjoy. Is this your view? It was mine until a few years ago—until I became a keeper of bees, a story in which the bees have taught me well; and what a story. If this is your current view, sit back, read and prepare yourselves for an education, a very worthy one, and a shock! Not brought to you by me but, through me, by my mentors.

Consider these: Dwindling Disease, Disappearing Disease, French Bee Syndrome, Varroatosis, Acarapidosis, Invertebrate Iridescent Virus type 6, Nosematosis, Chalkbrood, Aspergillusmykosis, Spiroplasms, European Foulbrood, American Foulbrood, Septosis, Rickettsiosis, Acute Paralysis Virus, Israel Acute Paralysis Virus, Chronic Paralysis Virus, Egypt Bee Virus, Deformed Wing Virus, genetic deficiencies, amoebic infestations, dysentary, septicemia, Stonebrood, Acute Bee Paralysis, Acarine disease, Bee Parasitic Mite Syndrome (1★), wax moth, small hive beetle, as well as problems arising from bears, raccoons, skunks, mice and vandals (Homo sapiens) damaging hives. These are all diseases or problems of honey bee (Apis mellifera) colonies. Have you heard of even half of these? You probably have not if you are not an apiarist. Well, sadly, honey bees have and reading this list it seems a wonder that there are any honey bees around at all.

Any one of these topics is a science unto itself, which brings me to one more disease that has been in the news of late, Colony Collapse Disorder (CCD). This disease occurs when the worker bees (all females by the way) fail to return to the hive and is more prevalent in commercial hives. While some of the aforementioned bee diseases and problems can exhibit symptoms akin to CCD, others may interact and produce synergistic effects, leading to similar results. Recent USDA research, in 2010, has concluded that co-factors, a virus and a fungus, were present in 100% of the collapsed colonies studied. (2★) Another USDA report states that "…based on an initial analysis of collected bee samples (CCD- and non-CCD affected), reports have noted the high number of viruses and other pathogens, pesticides, and parasites present in CCD colonies, and lower levels in non-CCD colonies. This work suggests that a combination of environmental stress factors may set off a cascade of events and contribute to a colony where weakened worker bees are more susceptible to pests and pathogens and consequently fail to return to the hive." (3★) (As a yardstick, hive losses in the 1950's averaged around 10% whereas in 2010 they were 34%. Commercial hives may be higher.) (10★)

Thus the likelihood is that CCD is caused by a number of interactive factors (6, 7 & 8★),

(continued on page 2)

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(Bee Involved continued from page 1)

which may vary with geography. This leads me to French Bee Syndrome, which has linked CCD to an agricultural insecticide, a seed treatment currently being used on most commercial field corn across the United States, and increasingly so on soybeans. Three insecticides are primarily used in agricultural seed treatment and they all belong to a group known as the neonicotinoids, or neonics for short. As the name implies, they are a synthetic derivative of the natural insecticide nicotine, which is very toxic. This may or may not be the cause of CCD but the use of neonics has been suspended in France, Germany, Italy and Slovenia; but not in the United States. In what I have read, this insecticide group produces a specific problem, apart from CCD. It is on this matter alone that I wish to dwell exclusively, since CCD is far too complex a topic for me to speculate upon; since even experienced researchers, far beyond my humble capabilities, have yet to come up with a final answer. In scientific research it is very hard to tease apart a definitive cause especially where several suspected agents may be interacting to produce similar symptoms. In 2009 the CCD Working Group qualified 61 variables of CCD and "no single causal agent" was found. (4, 5 & 10★)

First allow me to introduce the neonicotinoids to you, amongst which are Imidacloprid (common name: Gaucho), Acetamiprid (common name: Assail), Clothianidin (common name: Poncho), and Thiamethoxam (common name: Cruiser). They were first used in the U.S. starting in the early 1990's and were being widely used by the early 2000's. Information from Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences (IFAS) states that, "Imidacloprid was first registered for use in the U.S. in 1992 and is possibly the most widely used insecticide of the group. It has a wide range of target pests and sites, including soil, seed, structural, pets, and foliar treatments in cotton, rice, cereals, peanuts, potatoes, vegetables, pome fruits, pecans, and turf. Acetamiprid is for use against sucking insects, such as aphids and whiteflies, on leafy vegetables, cole crops, citrus, cotton, ornamentals, and fruiting vegetables.

"Clothianidin was registered in 2003 by Bayer initially for corn and canola seed treatment use. Additional approved sites include grapes, pome fruit, rice, tobacco, and turf and ornamentals.

"The mode of action of neonicotinoid pesticides is modeled after the natural insecticide, nicotine. They act on the central nervous system of insects. Their action causes excitation of the nerves and eventual paralysis which leads to death. Because they bind at a specific site (the postsynaptic nicotinic acetylcholine receptor), they are not cross-resistant to the carbamate, organophosphate, or synthetic pyrethroid insecticides, which was an impetus for their development. As a group, they are effective against sucking insects, but also chewing insects such as beetles and some Lepidoptera, particularly cutworms." (11★)

While researching for this article I came across two papers in particular on neonics and

Honey bees entering and leaving through the entrance on bottom board—the "front door" of the hive.

seed corn treatment that jumped out at me (1 & 8★). The active chemical is designed to perform, as mentioned earlier, as a seed and seedling protectant but it is also translocated to the structures of a mature plant, i.e. to pollen and seed. However, the levels of pesticide in these structures, according to a study by the insecticide's manufacturer, Bayer, are not high enough to cause death or disorientation in bees. Other studies, however, have shown that low levels of insecticide can exhibit various foraging and disorienting behaviors in bees and also termites. (12★) While the Bayer study shows sublethal effects, a study from Italy (8★) notes a much more troubling aspect. The amount of insecticide from seed corn treated with Imidacloprid found in the guttation droplets of a young corn plant is enough to kill a bee. Guttation what you ask!? Admittedly, this was a term that I had not heard since my early days of botany, some nameless number of decades ago! Guttation is the exudation of water droplets at the ends of the leaves of young growing plants and many insects use those droplets as a means of imbibing water during the summer months. Guttation droplets are quite different to dew.

The Italian study concludes, "Being the likelihood that bees could drink from cornfield or other crops guttation drops not yet quantified, it is still not possible to draw a

judgment on a possible correlation between neonicotinoid translocation into guttation drops and CCD. Regardless, the presence of a source of water carrying in solution neonicotinoid concentrations up to the levels shown in the current study, and persisting for weeks on more than a million hectares (~ 2.47 million acres) in the sole northern Italy, is a threatening scenario that does not comply with an ecologically acceptable situation." Strong words in a highly respected refereed journal written in scientific language and not prone to emotive comment. In contrast there were approximately 89.3 million acres of field corn planted in the U.S. in 2010 and 78.2 million acres of soybeans. The U.S. is the world's largest producer of field corn. (9★)

Finally consider this: the affect of this insecticide group upon the wealth of insects, both harmful and beneficial, not just honey bees, but native insects that drink from guttation droplets from seed-treated corn plants growing in our agricultural fields globally and across this nation, is a point of serious concern. If you are a landowner, become involved in your farm and do not leave operations and management decisions exclusively up to your farmer. Ask questions, because he or she may not be aware of this dilemma. Until last year I was only mildly aware of the problem and in consequence we at CWH now no longer use neonicotinoid treated seed, and, believe me, that was no easy task to accomplish at the last minute of ordering seed for 2011 since nearly 100% of commercial seed corn is now treated in the U.S. Untreated neonic seed needs to be ordered six months in advance.

If you would like assistance working with your farmer or operator, please give us a call. Farm fields need not be planted field edge to field edge. Our native pollinators need our help also since many are in trouble and can do the job better than honey bees. In Europe one study found that in two countries there had been a 70% drop in wildflowers requiring insect pollination since the 1980's, leading to a change in the composition of the insect pollinator community. (13★) The two prime reasons given were habitat degradation and improper agricultural practices. The situation may not be as dire here in the United States yet, but do not let us be complacent and have that awful statistic creep up on us.

★ *Due to the extensive reference list for this article and limited space allotted, the list is not printed in this newsletter. However, it is available on the website at www.cheswildlife.org. In the box on the left side of the home page, click on "Habitat Works the CWH newsletter," then select "Bee Involved!—Reference List." Or, you may call CWH and request a hard copy be mailed to you.*

Wildlife Profile: Hermit Thrush

by Andi Pupke, Education and Outreach Director

The Hermit Thrush *(Catharus guttatus)* is a common and wide-spread thrush of northern woodlands. It is very common, but seldom seen as they are very secretive woodland birds. Any spotted thrush seen in the Eastern U.S. during the winter time will be a Hermit Thrush since it is the only member of its genus *(Catharus)* to spend the winter in North America. It is a small thrush about 6-inches in length, which has olive-brown feathers and white under parts with black spots on its chest and underside of its neck. Some identifying behaviors to look for are how it cocks its tail by lifting its tail up quickly then lowering it slowly. It also habitually flips its wings (or twinkles) as it hunts for food on the forest floor. The Hermit Thrush's name comes from the fact that it spends its winters alone—it is not a bird commonly found in flocks.

The Hermit Thrush has a beautiful song, which is seldom heard except on the breeding grounds in the spring. The song is a single high, flute-like note followed by a rapid series of rising and falling notes.

It is a relatively shy bird that stays mostly in wooded areas. Nests are on or near the ground, so it can easily be disrupted by habitat loss and over-population of deer. This thrush feeds mostly on insects during the warmer months, but moves to fruit during the winter. For the past two winters I have watched the Hermit Thrush strip the Inkberry bushes *(ilex glabra)* around my home of their berries. It's very satisfying to be able to watch such a shy bird from the warmth of my own kitchen.

The Hermit Thrush has a beautiful song and is common in our area, but is seldom seen as it is a very secretive woodland bird. (Photo courtesy of Bill Hubick)

If you live in or very near the woods, you can attract the Hermit Thrush to your yard by planting native fruit-producing shrubs and trees like Inkberry and American Holly. During the winter, the Hermit Thrush will travel short distances to find food. Non-native plants and cultivars used in traditional landscaping normally do not provide the correct nutrients for our native songbirds and their fruit is left on the plant throughout the winter.

Ask Andi:

Questions and answers about wildlife by Andi Pupke, Education and Outreach Director

Q: ***When we have a January thaw, do the warm, spring-like days ever fool any wildlife into beginning their breeding season too early?***

A: Thankfully, no, they are not fooled. The onset of breeding season is dictated by photoperiod length (day length) or the amount of sunlight in a 24-hour period. This is fine-tuned by local environmental conditions like temperature and moisture. So, a few days or even a week of un-seasonal warm weather during the late winter months will not fool even the most anxious critters into nesting too soon.

There are many other reasons that may cause wildlife to fail during the breeding season. During very wet springs ground nesting birds and mammals may lose their first nest due to the soggy, cool conditions. Disturbances caused by predators or humans can also cause nesting failure. The best protection in order for wildlife to have a successful breeding season is undisturbed habitat.

Critical Habitat Protection for the Delmarva Fox Squirrel

by Katie Lank, Development Associate

Chesapeake Wildlife Heritage is working to ensure more protections for the Delmarva fox squirrel (DFS). Our organization is a co-filer in a petition for designation of critical habitat, pursuant to the requirements of the Endangered Species Act (ESA) and the Administrative Procedure Act. Bethany Cotton of the Center for Biological Diversity is the chief petitioner.

The formal designation of critical habitat by The U. S. Fish and Wildlife Service (FWS) would provide special protections for land areas that are critical to the survival of the fox squirrel. The 1978 amendment to the ESA mandates the designation of protective habitat for areas crucial to the survival of a species upon the listing or change in status of the species. However, because the fox squirrel was listed prior to the 1978 amendment, it has no designated habitat and therefore no protected land.

Designating protected habitat areas for endangered species is critical to not only the prevention of further population declines but, more importantly, for meaningful recovery. The enforceable protective power of the ESA is centered in critical habitat designation; without these protected areas, a listing as "endangered" is little more than formal notice that a species is in peril. The fox squirrel and other species listed prior to 1978 remain staggeringly vulnerable to threats to their habitat from expanding development and associated human-based intrusions of noise pollution, roads, excessive logging, and other fragmenting elements.

Often now when someone wants to destroy DFS habitat they are permitted to mitigate for the destruction by permanently protecting DFS habitat somewhere else. This does not create new woodlands where DFS can live but in fact results in a smaller acreage of total DFS habitat despite the fact that a small portion of it is permanently protected. The Chester River and Choptank River watersheds, for example, are less than 25% forested so good woodland habitat is already tough to come by. We shouldn't allow more of it to be lost to development with resulting severe impacts to Delmarva fox squirrels, forest interior dwelling species, reptiles, amphibians, etc. The DFS was listed as an Endangered Species during the infancy of the ESA more than 40 years ago. The dangers to fox squirrel survival have grown in number and intensity since the species' initial listing as human encroachment on DFS habitat has surged (roads, housing developments, logging, and even loss of some woodlands to sea level rise).

Current viable populations of DFS exist only on Maryland's Eastern Shore and in one Delaware county, so it is absolutely essential that remaining local habitat be protected. The fox squirrel has long been a focus of CWH's habitat conservation work.

Government involvement in the future of the DFS is currently at a fulcrum point. The FWS is responsible for performing, as requested or deemed appropriate, a review of the status of listed species to ensure that the current classification is accurate. In 2007, FWS completed a five-year review, concluding with the recommendation that the fox squirrel be down-listed to a threatened species classification. No action was taken in reference to those recommendations.

Most recently, the FWS has initiated another five-year review of fox squirrel status, with dubious goals. The initiation of another review so recently after the 2007 review indicates that FWS may be trying again to change the status of the fox squirrel.

One unusual concern in establishing and designating habitat is the anticipated effects of rising sea levels from climate change and how these will alter the suitable habitat areas for the squirrel. Woodlands on the lower shore are already being visibly effected by sea level rise. Data on areas where squirrels presently persist does not adequately represent the future needs of the species; many currently populated lowland areas will become unsuitable with rising sea levels and saltwater intrusion. Any critical habitat designation must allow for population movement into upland areas and provide corridors for movement.

CWH is working with the Center for Biological Diversity and other co-petitioners to achieve adequate critical habitat designations for the Delmarva fox squirrel. Successful habitat protection will hopefully increase the fox squirrel's chances of survival.

Designating protected habitat areas for endangered species is critical to not only the prevention of further population declines but, more importantly, for meaningful recovery, such as in the case of the Delmarva Fox Squirrel.

Reminder:

CWH Monarch Tagging Workshop in September

By helping tag these amazing butterflies, you will be helping scientists from around the continent track the migration of the Monarchs. Check in early September for CWH's notices in the Star-Democrat and other local newspapers or call the CWH office at 410-822-5100.

Population + Paving = Pollution, Part Two

This article is reprinted with permission from the author, Walter Boynton. It was posted by Mr. Boynton on December 16, 2010 on the website: www.bayactionplan.com. (See website for part one mentioned below.)

This part of the story (see part one) starts with work done by Dr. Grace Brush, a long-term faculty member at Johns Hopkins University. Grace and her students use a variety of techniques to "look back in time" to reconstruct what the Chesapeake Bay and watershed looked like in the past, even as far back as 14,000 years ago.

What they found was interesting and useful for all people living in this basin. For example, Grace found when John Smith starting exploring the Chesapeake the basin was "almost entirely covered with a diversity of forests on a wide variety of soils, drained by an intricate and dense system of over 100,000 streams and 150 major rivers surrounded by large marshes." In addition, "beavers were abundant…building local dams and impoundments on…virtually all… streams…the environment was wet and marshy throughout."

I took some of Grace's data and estimated that at the time of European settlement there were about 3 million beavers at work in the basin…by the early 1700s there were no beavers left and by the mid-1930s the Chesapeake human population reached the same level as the beavers in 1600. Lots of change, again!

What's the message here? The message is that we need to think differently about the land we all live on, especially because there are so many of us. It is clear that wetlands of all sorts, including those engineered by beavers in the 1600s, were more common in the past than they are now.

These systems RETAIN and CLEAN water as it moves (slowly) from the land to waterways. Sediment, nitrogen and phosphorus are all removed, some of it permanently. We need to engineer wetlands back into the landscape just as we are now trying harder than ever to engineer oysters back onto the waters of the Chesapeake…in part because they also do a heck of a job in keeping water quality (and habitat) in good shape.

Some may think this just pie-in-the-sky nonsense, but there is good evidence that making parts of the landscape "wetter" will make a large difference in water quality. A few years ago I was involved in putting together a nitrogen budget for the whole Patuxent River and watershed. Many people know the general story of the Patuxent where an over-supply of nitrogen and phosphorus have led to turbid water, loss of seagrasses, algael blooms and dead zones where there is little or no oxygen in the water. What we wanted to know was where nitrogen came from and where it went.

While the science folks can make a budget sound awfully complicated, it comes down to the same sort of budget my wife insists on keeping…where does the money come from and where does it go…and no, there can be no red ink and no, we do not get to print some more if we happen to run low. That's what we did in the Patuxent but with nitrogen rather than cash.

What we found was astonishing. In a nutshell, half of all the nitrogen that comes from the drainage basin into the Patuxent is removed in the tidal wetlands of the Patuxent. These wetlands make up just less than 2 percent of the full basin…a tiny bit of land yet they exert a powerful effect… for free, I might add…on cleaning up the water.

I've started thinking of them as a natural kidney placed between the land and water, doing a job akin to the kidneys in our bodies. Similar results have been seen in the Choptank and Corsica Rivers, both of which have wetlands at the head of tide; this effect is missing in the Potomac where the wetlands at the head of the estuary have long-since been paved into a city.

So, this wetland kidney effect does not seem to be just a fluke of the Patuxent but a more general feature of the land-sea interface. Unfortunately, even these wetlands are not enough to adequately clean up the water and serious water quality problems persist in all these estuaries. More needs to be done.

The point here is that we need to take Grace Brush's ideas to heart and add wetness to the landscape. Evidence to date suggests it can have important water quality benefits and this seems especially important given that more of us want to live in Bay Country. I'm not recommending we build beaver hatcheries akin to oyster hatcheries but we can build wetlands without the help of these native rodents.

Some outfits like the University of New Hampshire have been building experimental wetlands and testing them under real-world conditions. Results have been heartening and that's the good news I referred to at the beginning of this piece. We need to get busy and start some serious beaver-like behavior.

Update on CWH Partnership to Benefit Farms and the Bay

by Michael Robin Haggie, Agricultural Wildlife Ecologist

Chesapeake Wildlife Heritage continues to assist the farming community by providing a technology relatively new to the Mid-shore region that can reduce nutrient pollution and decrease fertilizer inputs. The equipment places liquid fertilizers, principally nitrogen and phosphorus, about four inches below ground. This subsurface placement reduces nutrient surface runoff and increases the uptake by crops. Currently, most fertilizer not run through the planter is surface applied and subject to runoff during untimely rain events.

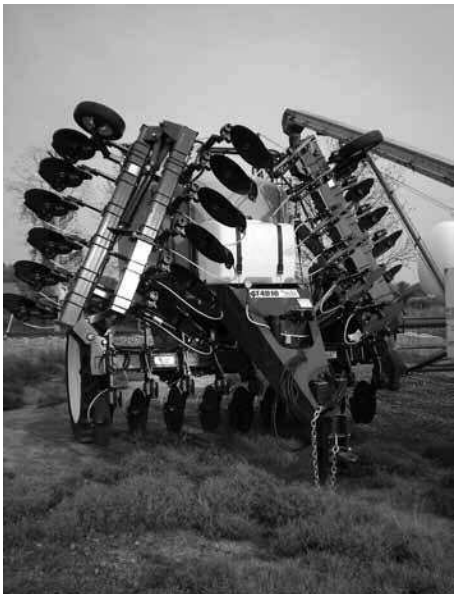
With the support of the Biophilia Foundation, CWH purchased a Blue-Jet AT4010 Liquid Fertilizer Applicator (nutriplacer), which it makes available to the farming community through a partnership it has developed with Crop Production Services of Centreville, Maryland. Fertilizer elements, especially macronutrients nitrogen and phosphorus by volume, are a critical component in row crop production. Regrettably, however, they are also one of the prime sources of nutrient pollution in the Chesapeake Bay.

According to the Chesapeake Bay Program, in the Mid-shore region of Maryland's Eastern Shore, agriculture produces at least 40-50% of the nitrogen and phosphorus pollution in the watersheds. Given that 70% of the landscape in these watersheds is in agriculture, it is clear that by working proactively with the farming community we can yield important reductions in nutrient pollution through fertilizer injection.

Nutriplacers have been utilized in the Mid-west and are proven to reduce nutrient outputs in farming operations and increase crop yields. Unfortunately, this specialized piece of equipment is expensive. Without a low-cost introduction to encourage initial use by farmers and technical support, this promising technology will not be adopted widely. Since CWH started working with this equipment, seven or eight farmers here on the Mid-shore have purchased their own equipment.

Robin Haggie, CWH's Agricultural Wildlife Ecologist, is currently working with Chestnut Farm near Centreville to use CWH's spare nutriplacer row units to increase the fertilizer efficiency of their corn planting efforts. Other conservation groups are now exploring helping farmers get access to nutriplacer technology, as well. It seems CWH's efforts to bring this technology to the Mid-shore are now spreading nicely!

CWH continues to assist the farming community reduce pollution and decrease fertilizer input through the use of this CWH-owned nutriplacer. This equipment places liquid fertilizers, principally nitrogen and phosphorus, about four inches below ground. The subsurface placement reduces nutrient surface runoff and increases the uptake by crops.



The Sustainable Agriculture Program at CWH works with farmers and landowners to enhance the wildlife habitat value of their land, and reduce the amount of pesticides and nutrients used in farming operations, while maintaining farm profitability. In a region blessed with the beauty and bounty of the Chesapeake Bay and with agriculture as the number one industry, this work is difficult, but vital.

CWH staff advises farmers and landowners on the use of agricultural methods, such as no-till planting, band spraying and cover crops, all of which reduce top soil erosion and use 2/3 less herbicides and nutrients than conventional agriculture methods. These methods benefit wildlife and the waters of the Bay by preventing pollution without undermining the local agricultural based economy.

Founded in 1983, Crop Production Services is an innovative, full-service agriculture retailer with offices in seventeen states. CPS offers many services to farmers including: crop management, fertilizer application, root zone banding, crop scouting and animal nutrient management. CPS has six offices on the Eastern Shore and offices throughout the Chesapeake Bay watershed, including Virginia, Pennsylvania and New York. By partnering with the Centreville office, CWH will introduce this technology to the CPS network of technical service providers in other parts of the watershed.

Together, Chesapeake Wildlife Heritage and Crop Production Services will work to assist farmers in learning about the benefits of subsurface application of fertilizers. CPS will utilize the nutriplacer on the farm fields of partnering farmers.

More Native Wildflower Choices for Warm-Season Grass Meadows

by Austin Jamison, Coordinator-Blue Ridge Division

In previous years CWH has been limited in its choice of wildflowers for our native warm-season grass (WSG) plantings. This is because CWH prefers to use the herbicide Plateau when establishing meadows. Plateau helps greatly in reducing first-year weed competition in WSG plantings. Most native WSG, such as big and little bluestem, sideoats grama and indiangrass are tolerant of Plateau, as are several native wildflowers including partridge pea, black-eyed susan, purple coneflower, and lance-leaf coreopsis.

With the increased interest in native WSG meadows, and especially in the value of additional wildflowers for pollinators, more research has been done on Plateau tolerant species, most notably by Dr. Thomas Barnes at the University of Kentucky. At this point, CWH now has many more species to choose from when putting together Plateau tolerant seed mixes for wildflower meadows.

Heath aster: Photo courtesy of JenniferAnderson@USDA-NRCSPlantsDatabase.

As a general rule, most legumes and composites along with a few other genera, such as *Asclepias*, are tolerant of low rates (2-4 oz/acre) of Plateau applied pre-emergently. For maximum benefit to pollinators, CWH recommends selecting wildflowers that vary in both bloom time and color. Such a meadow may include the following species:

LATE SPRING
Blue flowering: wild blue lupine, false blue indigo
Yellow flowering: lance leaf coreopsis

MID-SUMMER
Yellow flowering: black-eyed susan, partridge pea, tickseed coreopsis
Orange flowering: butterfly milkweed
Purple flowering: coneflower and showy tick trefoil

LATE SUMMER/EARLY FALL
Yellow flowering: goldenrods
Purple/white flowering: New England and heath asters

Several wildflower species such as this goldenrod, have been added to the Plateau tolerant list for warm-season grass meadows planted in the State of Virginia.

When establishing pollinator meadows, CWH recommends planting no more than 3 lbs/acre of shorter native grasses like little bluestem, sideoats grama, and broomsedge along with the wildflowers. If additional native species are desired but not Plateau tolerant, they can be frost seeded over the winter. If you are interested in creating a meadow with color throughout the growing season and maximizing its benefit to pollinators, please contact CWH.

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Reminder:

CWH sign-up deadline for Phragmites spraying is July 18, 2011. Call 410-822-5100

Welcome to New Members

Chesapeake Wildlife Heritage would like to extend our sincere appreciation to the 80 new members who joined CWH in 2010.

Robert Adamski
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American Plant Food Co., Inc.
Anthropologie
Back Creek Landing CSA
Ken & Bonnie Barsa
Paige Beck
William Belding & Margel Highet
Dale & Sharleen Bennett
Gordon & Frances Benson
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Robert & Ilene Boorman
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