Wild Ones
NATIVE PLANTS, NATURAL LANDSCAPES
TENNESSEE VALLEY CHAPTER

Landscaping for Birds

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for Earthcare 3-24-2018

What is a "Bird Friendly"?

- Provide water year-round
- Install native plants - Select a variety of native plants to offer year-round food in the form of seeds, berries, nuts, and nectar. Try to recreate the plant ecosystem native to your area. Evergreen trees and shrubs provide excellent cover through all seasons, if they are part of your local ecosystem
- Eliminate insecticides in your yard
- Keep dead trees - Dead trees provide cavity-dwelling places for birds to raise young and as a source to collect insects for food. Many species will also seek shelter from bad weather inside these hollowed out trees.
- Put out nesting boxes
- Build a brush pile in a corner of your yard
- Offer food in feeders
- Remove invasive plants from your wildlife habitat - Many invasive plants outcompete the native species favored by birds, insects and other wildlife.
- Reduce your lawn area - Lawns have little value to birds or other wildlife, and they require more energy for mowing, applying fertilizers and watering.

From National Wildlife Federation

Clean Water – Essential to Life

Year-round water source

- Ocean, lake, pond, river, creek, bird bath, shallow water dish
- Bird bath needs to be shallow
- Change water every 2-3 days
- Make sure water is available during the summer

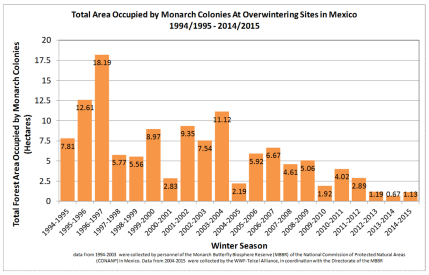
Plant Natives!

- Plants matter because they harness the energy that supports life.
- All plants are not equal in their ability to support food webs
- Plants that evolved within our local food webs share the food they make with local animals better than plants that evolved elsewhere. It's called "specialization"
- Specialization in the natural world, especially food specialization, is the rule rather than the exception
- Specialization always starts with plants

Plants Don't Want to be Eaten

- Plants defend their tissues with distasteful chemicals
- 90% of the insects that eat plants can develop and reproduce only on the plants with which they share an evolutionary history. (Forister et al. 2014)
- Monarch Butterflies are specialists whose caterpillars only eat Milkweeds
- However, landscaping practices including agriculture have removed milkweeds causing in part the Monarch's demise

Monarchs' Eastern Migration Demise Continues



We have replaced our native plant communities with plants from Asia and Europe.

Native vs Exotic

Exotic species (alien)

- Introduced by humans, either deliberately or accidentally

Privet

Japanese flowering cherry

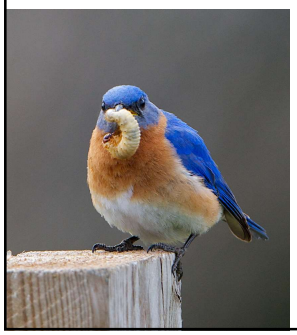
Kudzu

Exotic:

Crape Myrtle

3 spp.

Natives for Birds, Butterflies, Bees and other Insects



Native plants needed for all stages of life cycle

- Caterpillar/larvae feed on leaves
- Adult needs plant nectar
- Birds feed heavily on caterpillars during brooding

A chickadee pair brings 390-570 caterpillars to the nest per day (Brewer 1961);

Chickadees feed their young for 16 days before they fledge.

What about Fruit eaters?

The relationship between birds and plants is also specialized!

Summer Berries	Fall Berries	Late Winter Berries
High sugar	High fat	High sugar post freeze

Are berries from introduced plants good for birds?

NO!

The nutritional differences between invasive berries and natives is huge!

Native	%Fat
Northern bayberry (Myrica pensylvanica)	50.3%
Arrowwood (Viburnum dentatum)	48.7%
Spicebush (Lindera benzoin)	48.0%
Gray dogwood (Cornus racemosa)	34.9%
Virginia Creeper (Parthenocissus quinquefolia)	23.6%
Non-native	
Multiflora rose (Rosa multiflora)	0.9%
Bush Honeysuckles (Lonicera spp.)	0.7%
European Buckthorn (Rhamnus cathartica)	0.5%
Russian Olive (Elaeagnus umbellata)	2.1%
Oriental Bittersweet (Celastrus orbiculatus)	2.6%

Smith SB et al. 2007, 2013

Exotics Out of Sync

- Most (all??) non-native berry producers are phenologically out of sync with the needs of our birds *especially during migration*
- They produce high sugar berries in the fall instead of the summer
- Some are poisonous to North American birds such as Nandina or cathartic like European Buckthorn

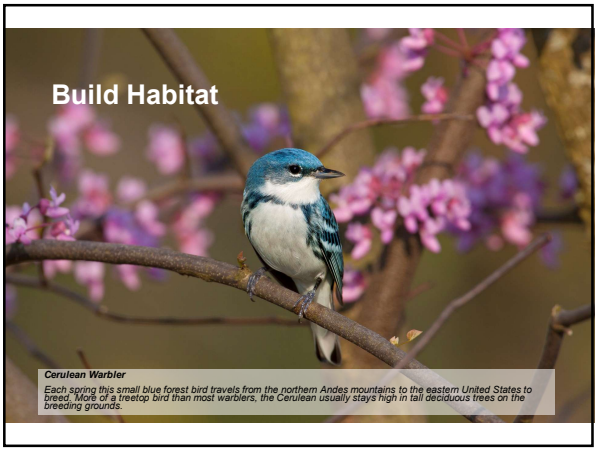
“Truth-squadding” Studies

Several recent studies indicate some urban bird species numbers are increasing due to exotic honeysuckle and privet invasion BUT:

- Other species are disappearing
- Cardinal male vigor is decreasing because of lower fat and protein of berries despite bright plumage signaling good health
- Higher nest depredation

Eliminate Pesticides

- Insecticides kill insects which removes essential fats and proteins from aviary diets
- Research is developing that **neonicotinoids** interfere with songbird navigation
  - Acetamiprid
  - Clothianidin
  - Dinotefuran
  - Imidacloprid
  - Nitenpyram
  - Thiacloprid
  - Thiamethoxam

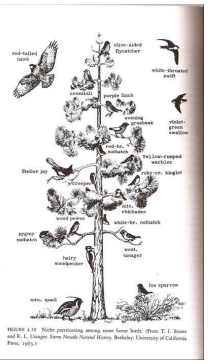


The Cerulean Warbler is a summer resident in Tennessee, arriving in mid-April and departing by the end of August. It prefers large areas of mature forest for nesting and breeds from northernmost Alabama to southern Ontario and west to the Great Plains. Cerulean Warbler densities, however, are not even across this range. The area of highest concentration, where 80% of the population can be found, stretches from the Cumberland Mountains of Tennessee to the mountains of West Virginia. In fact, the highest breeding densities ever recorded for this species are in Tennessee. This little bird weighing no more than 3 pennies makes a remarkable migration to northern South America to spend the non-breeding season. Unfortunately, the Cerulean Warbler is of high conservation concern because it is declining faster than any other eastern songbird. The primary reason for this decline is habitat loss caused by coal mining in the heart of the breeding range, incompatible forestry practices, and land clearing for development or agriculture in the breeding and wintering regions. (emphasis added)

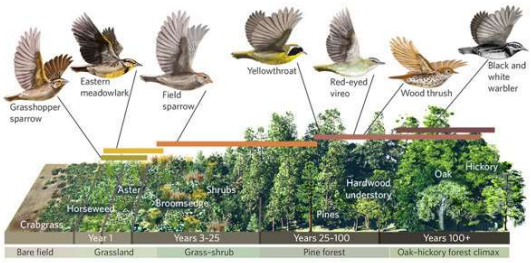
From: TWRA “Tennessee’s Watchable Wildlife” website

Consider Bird Habitat Niches

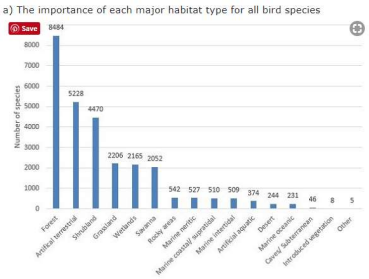
- Woodland (illustration at right) – deciduous or coniferous trees
- aquatic —lakes, ponds, swamps, marshes, oceans, and shorelines
- scrub-shrub —short woody plants and bushes
- open —grasslands, agricultural fields, and tundra.



Southern Deciduous Forest Ecology



World-wide Bird Habitat



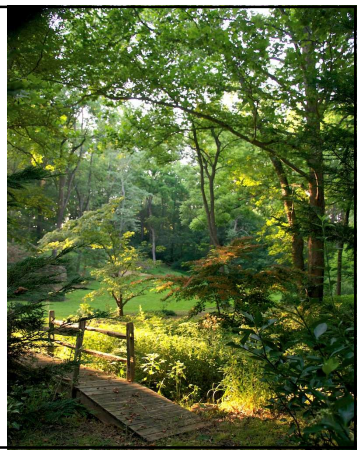
Threatened birds occur in all major habitat types but the majority (77.9%) are found in forests. Threatened species show a lower tolerance of human modified habitats (30.8% compared with 48.5% of all birds) and a large proportion occur in just one or two habitats (50.3%). Those that live in forest show a high dependency on the habitat and do not tolerate perturbation. Hilton-Taylor, C. (2000) *2000 IUCN Red List of threatened species*. Gland, Switzerland and Cambridge, UK: IUCN.

Creating Habitat:

Plant Densely

Plant in Layers

Create Edges



Permission to be Messy GRANTED!

- Leave dead trees that don't pose a danger to buildings
- Create brush piles
- Don't deadhead
- Allow leaves to stay on garden areas
- Reduce your LAWN!

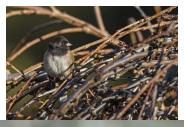
Create "Snags"

Tree Work Creates Opportunities

Build a Brush Pile

Steps:

1. Lay down the largest logs or trunks as a foundation.
2. Pile large branches loosely on top of this layer.
3. Continue building up the pile in successive layers. Make sure to leave open pockets between layers—don't pack brush and branches on too tightly.



http://www.audubon.org/news/build-brush-pile-birds

Leave Your Leaves

- "Leaf litter" serves as habitat, cover and foraging areas for birds as well as reptiles, amphibians and small mammals
- Many insects overwinter in leaf litter (including native bees)
- Leaf litter supports millions of small organisms, including bacteria and fungi, nematodes and springtails, millipedes and insect larvae which eat their way through the leaves, breaking down their carbon compounds, releasing nutrients into the soil

Nesting Boxes

Features are specific to bird species:

- entrance hole size, the posting height, and the type of habitat surrounding the box.
- Check out the Birdhouse Network of the Cornell Lab of Ornithology for more specific information on species preferences.

Boxes should be in place in February

Remove Invasive Exotic Pest Plants

- **Invasive pest plants crowd out native plants**
- Remove pest plants from your landscape using as few chemicals as possible
- Replace with Bird-supporting native trees, shrubs and groundcovers

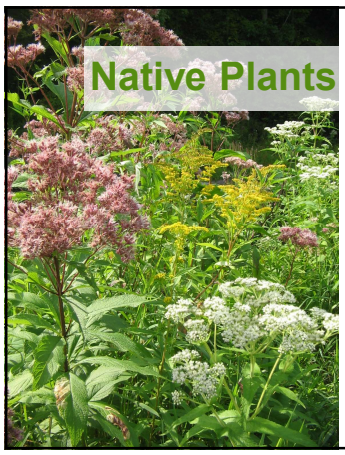
Learn to identify pest plants common in your area

Tennessee Invasive Plant Council
tnipc.org

Don't Plant Them!

Nandina domestica

- Cedar waxwing poisonings due to gorging behavior
- Every part of the plant poisonous, especially the red berries
- Exhibits invasive characteristics and on the TNIPC Alert List



Native Plants for Birds

Seven Important Plant Groups

- Conifers
- Grasses and legumes
- Nectar producers
- Summer fruits
- Autumn fruits
- Winter fruits
- Nuts and acorns

Cornell Lab of Ornithology

Conifers

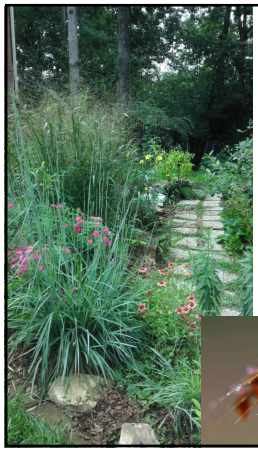
Food, shelter (especially in winter), nesting

- Pines (White, Loblolly, Virginia)
- Arbovitae
- Juniper (Eastern Redcedar)
- Eastern Hemlock

Grasses

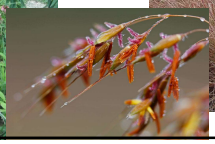
Switchgrass

(Panicum virgatum)



Little Bluestem

Schizachyrium scoparium



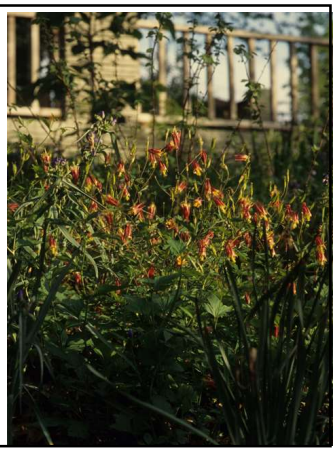
Early Nectar:

Wild columbine

(Aquilegia canadensis)

Early Spring nectar

****birds, butterflies, hummingbirds***



Summer-Fall Nectar

Coral Honeysuckle

(Lonicera sempervirens)

Long bloom period

****Hummingbirds, bees, butterflies (nectar)***

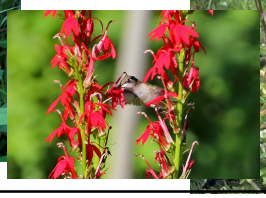
Summer Nectar

Cardinal flower

(Lobelia cardinalis)

Summer

****Hummingbirds***



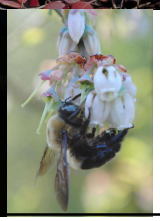
Summer Fruit

Highbush Blueberry

(Vaccinium corymbosum)

Spring, early summer berries

****bees, birds, mammals***



Summer Fruit

Black Cherry

Prunus serotina

Summer fruit eaten by 47 bird species

Also important caterpillar host plant (400+ species)

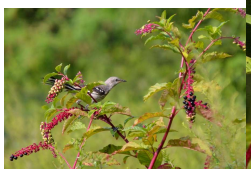
Summer Fruit

Pokeweed

Phytolacca americana

Summer fruit eaten by at least 30 birds, including bluebirds

Poisonous to humans, but relished by local mammals



Summer Fruit

Serviceberry

Amelanchior sp

Also host plant for Red-spotted purple and Striped hairstreak

Summer Fruit

Elderberry

Sambucus nigra

High sugar summer berries

Summer Fruit

Beautyberry
(Callicarpa americana)

Blooms spring

Berries - late summer (high sugar)

Fall Fruit

Eastern Red Cedar

Juniperus virginiana

Important high fat winter fruit

Nesting and shelter tree

Fall Fruit

Spicebush
Lindera benzoin

Late summer berries full of protein & fat

Spicebush Swallowtail host plant

Need both male and female plant for berries

Fall Fruit

Dogwoods

(Cornus alternifolia, amomum, drummondii, florida,)

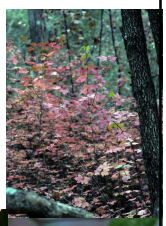
**birds, bees, butterflies, mammals*

Fall & Winter Fruit

Viburnums

(Viburnum acerifolium, cassinoides, dentatum, nudum, rudifolium, trilobum)

**birds, butterflies, bees*



Winter Fruit

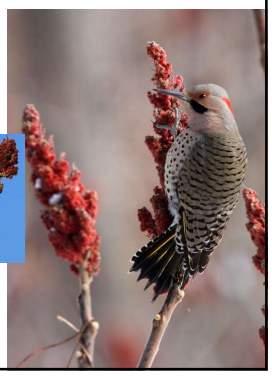
Sumac

Rhus spp.

Tolerant of many soils

Fruit high in Vitamin C

Brilliant fall foliage

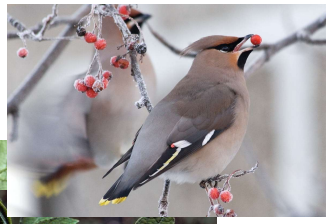


Winter Fruit

Winterberry

(Ilex verticillata)

**bees, butterflies, birds*



Winter Fruit

American holly

(Ilex opaca)

**birds, butterflies, mammals, bees*

Winter Fruit

Red or Black Chokeberry

(Aronia arbutifolia)

Winter berries

Acorns

Red and White Oaks

Quercas spp.

Caterpillars in spring

Acorns in fall

Seeds

Purple coneflower

(Echinacea purpurea)

Blooms all summer

**birds, bees, butterflies, hummingbirds*

Leave the seed heads for the birds!

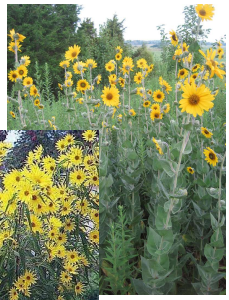
Seeds

Sunflowers (perennial)

(Helianthus spp)

Many types, sizes and requirements

**birds and bees*

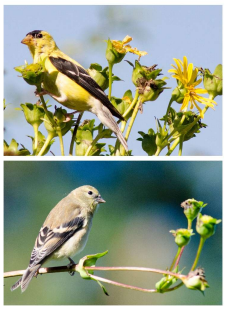


H. dowellianus

H. maximiliana

H. mollis

Seeds: Silphiums



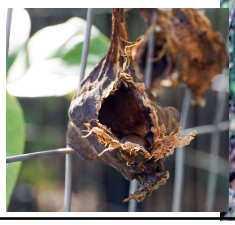
Seeds

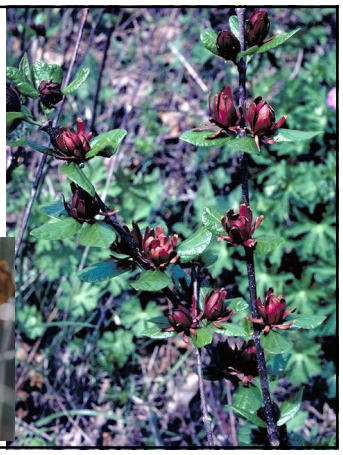
Sweetshrub

(Calycanthus floridus)

Blooms in spring

Seeds in Fall





"Like it or not, gardeners have become important players in the management of our nation's wildlife. It is now within the power of individual gardeners to do something that we all dream of doing: *to make a difference*."

Doug Tallamy

"Bringing Nature Home"

Where to Get Native Plants

- Bees on a Bicycle, Chattanooga
- Overhill Gardens in Vonore, TN
- NatureScapes, Oakridge, TN
- Reflection Riding Spring and Fall plant sales
- Sunlight Gardens in Andersonville, TN – mail order
- Specialty Seed Catalogs
- Trails and Trilliums – Sewanee
- Dancing Fern – Sequatchie

http://tennesseevalley.wildones.org/resources/where-to-buy-native-plants/

Learn More

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