Backyard Conservation

PROJECT AND SPECIFICATION GUIDE

Warren County Conservation District

- This program is designed to assist Warren County residents in establishing, enhancing, restoring, and/or maintaining backyard conservation projects.
- Cost-Share Rate: 50/50, not to exceed $200 (Participants will be reimbursed 50% of eligible expenses, up to $200)
- One application per household
- Project approval is required before starting
- Projects must meet program guidelines and specifications
- Photos and receipts are required for reimbursement
- Applicants may be subject to a spot check
- Projects must be completed within 90 days of approval
- This program is designed to assist Warren County residents in establishing, enhancing, restoring, and/or maintaining backyard conservation projects.

Projects

- Native Tree Planting
- Rain Garden
- Wildlife Habitat
- Raised Garden Beds
- Beginning Beekeeping
- Rain Barrels
- Composting
- Bat Houses
- Purple Martin Houses
- Invasive Species Removal

Contact

- 270-846-4506
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- www.warrenconservation.com
- @warrenconservationky

NATIVE TREE PLANTING

WCCD BYCP

Project Description

Trees in your backyard can be home to many different types of wildlife. Trees can also reduce your heating and cooling costs, help clean the air, add beauty and color, provide shelter from the wind and the sun, and add value to your home.

Guidelines & Reimbursement

- When is this in season? Plant trees November—February.
  - If you plant in March—April, extra watering is required.
- To receive cost-share for this project, you must purchase native trees.
- Thoroughly research your tree species.

Reimbursement available for: native trees

TREE SPECIES LIST:

- Ash, Blue
- Ash, Green
- Ash, White
- Bald Cypress
- Beech, American
- Black Cherry
- Black Locust
- Black Walnut
- Blackgum
- Buckeye, Ohio
- Buckeye, Red
- Buckeye, Yellow
- Canadian Hemlock
- Catalpa, Northern
- Dogwood, Flowering
- Dogwood, Pagoda
- Fringetree, White
- Hackberry, Sugar
- Hawthorn, Cockspur
- Hawthorn, Green
- Hickory, Pignut
- Hickory, Shagbark
- Hickory, Shellbark
- Holly, American
- Honeylocust
- Hophornbeam, American
- Hornbeam, American
- Kentucky Coffeetree
- Linden, American
- Magnolia, Bigleaf
- Magnolia, Cucumbertree
- Magnolia, Umbrella
- Maple, Red
- Maple, Sugar
- Mountain Silverbell
- Oak, Black
- Oak, Bur
- Oak, Chestnut
- Oak, Chinkapin
- Oak, Pin
- Oak, Red
- Oak, Scarlet
- Oak, Shingle
- Oak, White
- Oak, Willow
- Pawpaw
- Pecan
- Persimmon
- Redbud, Eastern
- River Birch
- Sassafras
- Serviceberry, Allegheny
- Serviceberry, Downy
- Serviceberry, Shadblow
- Sourwood
- Stewartia, Mountain
- Sweet Birch
- Sweetgum
- Sycamore
- Tulip Poplar
- Virginia Pine
- Witchhazel, Common
- Yellowwood

NATIVE TREE PLANTING

WCCD BYCP

NINE STEPS FOR PLANTING CONTAINERIZED OR BALLED AND BURLAPPED TREES

1. Shallow, broad planting hole: The hole should be dug to the depth of the root ball, and three to five times the diameter of the ball. Place the tree into this hole by holding the ball, not the trunk.
2. Position the tree: Balance the tree, making sure that it is straight and at the correct height (tree should be planted at the same depth that it was growing in the nursery).
3. Remove materials: Remove the top portion of wire basket or peel back the top portion of the natural burlap. If there is any plastic string or plastic burlap, remove now. Plastic burlap and twine will not break down in the soil, as will natural burlap, and will actually girdle the tree, causing the tree to eventually die.
4. Fill hole: Fill the hole with about one-third of the soil that you just dug out to make the hole and gently pack around the root ball. Continue to fill the rest of the hole, while adding water to remove air pockets. Do not add fertilizer for the first year.
5. Prune: At this time, prune only dead or broken branches, don't try to prune for shape. Wound paint is not necessary.
6. Tree Wrap: Remove any tree wrap that was used for shipping the tree.
7. Staking: Properly placed and planted trees rarely need to be staked. If staking is necessary, make absolutely certain that the stakes are removed at the end of the first year. At no time should the stakes or the binding twine rub the tree. This situation can cause wounds allowing opportunistic insects to invade.
8. Mulch: Place a 3-inch to 4-inch layer of mulch in a 3-foot to 4-foot diameter circle under the crown of the tree. Pull mulch away from tree trunk so that heat and moisture are not trapped.
9. Watering: Make sure that the newly planted tree gets at least 1 inch of water (either from rain or your garden hose) every week the first year, 1 inch of water every two weeks the second year and 1 inch of water every three weeks the third year.

PLANTING BARE ROOT SEEDLINGS

It is best to plant bare-root trees immediately, in order to keep the fragile roots from drying out. If you can't plant because of weather or soil conditions, store the trees in a cool place and keep the roots moist.

1. Unpack tree and soak in water three to six hours. Do not plant with packing materials attached to roots, and do not allow roots to dry out.
2. Dig a hole, wider than necessary, so the roots can spread without crowding. Remove any grass within a 3-foot circular area. To aid root growth, turn soil in an area up to 3 feet in diameter.
3. Plant the tree at the same depth it stood in the nursery, without crowding the roots. Partially fill the hole, firming the soil around the lower roots. Do not add soil amendments (fertilizers or peat moss).
4. Shovel in the remaining soil. It should be firmly, but not tightly, packed with your heel. Construct a water-holding basin around the tree. Give the tree plenty of water.
5. After the water has soaked in, place a 2-inch-deep protective mulch area 3 feet in diameter around the base of the tree (but not touching the trunk).
6. Water the tree generously every week (1 inch of water) during the first year.

Project Description

Rain gardens can remove standing water in your yard, reduce mosquito breeding, filter runoff pollution, and conserve water. They also create an environment that supports an increase of beneficial insects that can eliminate pest insects. Rain gardens are particularly important in urban and suburban areas because developed land (pavement, buildings, and compacted soils) increases stormwater runoff. Rain gardens are one of several stormwater management practices that homeowners can use to reduce their property's negative impact on water quality and flooding.

Stormwater runoff is created whenever rain or melting snow moves across the land surface rather than soaking into the ground. On developed lots, roofs, driveways, and other hard surfaces prevent that soaking-in process, so water runs off instead, picking up dirt, fertilizer, oil, bacteria, and other contaminants along the way. That runoff typically enters storm drains without any treatment and discharges straight into nearby streams and cave system. According to estimates, runoff of this kind is responsible for the majority of water pollution nationally, roughly 70 percent.

A rain garden interrupts that path. It captures runoff and holds it briefly so plants and soil can filter it and water can soak back into the ground. Common pollutants filtered out this way include fertilizer and pesticide residue, deicing salt, litter, antifreeze, grass clippings, pet waste, eroded soil, and motor oil.

It is worth noting what a rain garden is not. It is not a pond, a wetland, or a water garden, and it is dry most of the time. It only holds water during and shortly after a rain event, and because it is designed to drain within 12 to 48 hours, it does not give mosquitoes enough standing water to breed in.

Community Benefits

- Filters pollutants and improves water quality
- Provides localized flood and stormwater control
- Preserves native vegetation
- Attracts pollinators and beneficial wildlife and increases the diversity of birds and butterflies.
- Provides an attractive alternative to traditional lawns and requires less maintenance.
- Requires relatively little upkeep once established

Maintenance Expectations
Rain gardens need less upkeep than a traditional garden bed, but they are not maintenance-free. During the first growing season, water regularly in dry stretches, though if the soil stays moist about 4 inches down and any wilted plants bounce back overnight, additional watering usually is not necessary. Because runoff already carries nutrients into the garden and native plants are adapted to our soils, added fertilizer is rarely needed, though an organic fertilizer can be worked in if a soil test shows very low fertility.

Plan to weed at least monthly through the growing season and clear out any litter, sediment, or sand that washes in. Refresh the mulch layer about once a year, keeping it 2 to 3 inches deep, and pull old mulch out every year or two so it does not build up past that depth. Alternatively, use a green mulch matrix instead to reduce mulch requirements. Divide overcrowded plants in spring or fall, and prune out dead growth annually. Cutting perennials back in spring is optional and mainly cosmetic, and pinching, shearing, or deadheading during the season can encourage fuller growth and more blooms.

Guidelines & Publications

- When is this in season? Build anytime weather allows.
- Are there location limits? Yes, refer to publication.
- To receive cost-share for this project, you must follow the guidance from this publication: https://water.mgcafe.uky.edu/sites/water.ca.uky.edu/files/HENV205.pdf

Reimbursement available for: native plants, mulch, erosion control fabric or straw, rocks or stones

This BMP is incentivized by Warren County Stormwater Management. If it is installed correctly and maintained according to program requirements, you may receive a reimbursement equal to 25% of your eligible receipts in the second year and an additional 25% in the third year, resulting in a total reimbursement of 100% of the cost of this practice.

Reimbursement is contingent upon you submitting a reimbursement request in both the second and third years, as well as successful verification of proper installation and maintenance during a field visit.

RAIN BARRELS WCCD BYCP

Project Description

Rain barrels are an effective way to manage stormwater runoff and reduce the amount of pollutants in waterways. This can reduce the demand for municipal water supplies by using the stored water to supply gardens and lawns.

Guidelines & Publications

- When is this in season? Build anytime weather allows, utilize barrel spring—fall.
- Are there location limits? Yes, it must attach to a downspout to catch rain runoff.
- To receive cost share for this project you may purchase a rain barrel

Reimbursement available for: prefabricated rain barrels

COMPOSTING WCCD BYCP

Project Description

Compost bins can be used to decrease the amount of yard trimmings and food waste going to landfills. Compost is a soil conditioner made of decomposed organic material that improves the physical condition and fertility of the soil. Using compost can improve aeration, root penetration, and water infiltration.

Guidelines & Publications

- To receive cost-share for this project, you may purchase a compost bin

Resources
All about composting: https://publications.mgcafe.uky.edu/sites/publications.ca.uky.edu/files/NEP-233-Growing-Your-Own-A-beginner%27s-guide-to-gardening-Composting--Remediated.pdf

Reimbursement available for: prefabricated compost bins

RAISED GARDEN BEDS WCCD BYCP

Project Description

Raised beds are great for growing small plots of vegetables or flowers. They prevent soil compaction, provide good drainage, and serve as a barrier to pests and pathway weeds. Raised beds can be used to overcome poor soil conditions and bring the garden to an easier-to-reach height.

Guidelines & Publications

- Are there location limits? Yes, a vegetable garden should be allowed full sun.
- To receive cost-share for this project, you may purchase raised bed containers or construct beds based on guidance from these publications:

https://publications.mgcafe.uky.edu/files/ID248.pdf
https://www.aces.edu/blog/topics/lawn-garden/raised-bed-gardening/

Reimbursement available for: lumber or metal for bed sides, fastners/nails/etc, prefabricaed raised beds

WILDLIFE HABITAT WCCD BYCP

Project Description

Support pollinators and wildlife by supplying shelter, food, and a water source to attract them to a specific area. Regardless of their size, a backyard or pollinator habitat will impact our crops and assist with fruit and vegetable production.

Guidelines & Publications

- Are there location limits? Yes, follow planting requirements for pollinator mixes and native plants
- To receive cost-share for this project, you must use native mixes or plants and meet the minimum requirements per the National Wildlife Federation Checklist.

Additional Resources
https://xerces.org/sites/default/files/publications/18-014.pdf
https://www.backyardecology.net/provide-habitat-for-ground-nesting-bees/
https://www.backyardecology.net/make-a-bee-waterer/
https://www.backyardecology.net/pine-for-carpenter-bees/
https://www.backyardecology.net/leave-flower-stems-for-bees-and-small-solitary-wasps/
https://www.backyardecology.net/3-easy-ways-to-provide-bumble-bee-nesting-sites/
https://www.pollinator.org/guides
https://www.nwf.org/nativeplantfinder/plants https://www.audubon.org/native-plants

How to plant a pollinator seed mix:

R**eimbursement available for:** native plants or native pollinator mixes, prefab native bee box, small bird bath, small (container) water garden

This BMP is incentivized by Warren County Stormwater Management. If it is installed correctly and maintained according to program requirements, you may receive a reimbursement equal to 25% of your eligible receipts in the second year and an additional 25% in the third year, resulting in a total reimbursement of 100% of the cost of this practice.

Reimbursement is contingent upon you submitting a reimbursement request in both the second and third years, as well as successful verification of proper installation and maintenance during a field visit.

Need help?

Busy Bee Nursery & Consulting- info@busybeenurseryandconsulting.com
Roundstone Native Seed Company- 270-531-3034
Ironweed Native Plant Nursery- 270-250-3587
soky.wildones.org

WILDLIFE HABITAT WCCD BYCP

NATIONAL WILDLIFE FEDERATION

CERTIFED WILDLIFE HABITAT® REQUIREMENTS:

Certification Checklist

Use this checklist to assess if you meet the requirements of a Certified Wildlife Habitat. If you are ready to certify, scan the QR code or go to www.nwf.org/certifyonline.

Food - Minimum 3 Sources

Native plants provide the basic foods for wildlife (feeders can supplement).

- ☐ nectar & pollen
- ☐ host plant
- ☐ fallen leaf layer
- ☐ seeds & cones
- ☐ nuts
- ☐ fruits & berries
- ☐ bird feeders (e.g. seeds, suet)
- ☐ nectar feeders

Water - Minimum 1 Source

Wildlife needs a clean water source for drinking, bathing, and/or breeding.

- ☐ stream or river
- ☐ lakes
- ☐ natural spring
- ☐ year-round pond
- ☐ seasonal pond
- ☐ ocean
- ☐ puddler
- ☐ mud dish
- ☐ water fountain
- ☐ (container) water garden
- ☐ rain garden
- ☐ bird baths

Cover - Minimum 2 Sources

Wildlife needs shelter from bad weather. Both predators and prey need hiding places.

- ☐ mature tree
- ☐ dead trees (snags)
- ☐ fallen/decomposing logs
- ☐ dense shrubs/brambles
- ☐ brush or log pile
- ☐ fallen leaf layer
- ☐ 12in+ overwintered hollow stems
- ☐ meadow or prairie
- ☐ evergreen plants
- ☐ groundcover plants
- ☐ grasses, sedges, rushes
- ☐ year-round pond
- ☐ (container) water garden
- ☐ rock pile/formation
- ☐ rock wall
- ☐ animal burrow
- ☐ roosting box

Places to Raise Young - Minimum 2 Sources

Wildlife needs places for courtship behavior, mating and to bear and raise their young.

- ☐ mature tree
- ☐ dead trees (snags)
- ☐ fallen/decomposing logs
- ☐ dense shrubs/brambles
- ☐ brush or log pile
- ☐ fallen leaf layer
- ☐ 12in+ overwintered hollow stems
- ☐ meadow or prairie
- ☐ host plants
- ☐ groundcover plants
- ☐ year-round pond
- ☐ (container) water garden
- ☐ animal burrow
- ☐ nesting box
- ☐ native bee box

Sustainable Practices - Minimum 3 Actions

How you manage your space effects the health of the soil, air, water, and habitat for wildlife and people.

Soil Conservation

- ☐ use natural mulch (e.g. straw, wood)
- ☐ leave the leaves
- ☐ make & apply compost
- ☐ apply cover crops
- ☐ reduce erosions

Water Conservation

- ☐ use drought-tolerant native plants
- ☐ plant densely (if applicable)
- ☐ use natural mulch (e.g. straw, wood)
- ☐ harvest rainwater
- ☐ install rain garden
- ☐ use efficient irrigation (e.g. drip hose)
- ☐ use greywater
- ☐ reduce overall water usage

Pollution Reduction

- ☐ eliminate or greatly reduce chemical pesticides
- ☐ eliminate or greatly reduce chemical fertilizers
- ☐ eliminate use of plastic weed liners
- ☐ eliminate or replace gas mowers; use electric or hand-powered
- ☐ repair or borrow garden tools before repurchase
- ☐ turn off outdoor lights at night
- ☐ use amber-colored LED bulbs for outdoor lights
- ☐ clean and reuse garden pots
- ☐ compost kitchen and garden waste

Controlling Non-Native Species

- ☐ remove non-native plants and animals
- ☐ practice integrated pest management
- ☐ reduce lawn space, replace with native plants

Keep in Mind

From backyards to balconies, you can make an impact no matter the garden's size. Homes, schools, places of worship, parks, and even small businesses can create and certify their habitat.

Look for plants native to your region and strive for 70% native plants in your garden. These plants provide natural sources of habitat, which are ideal for wildlife. You can find species appropriate for your zip code at https://nativeplantfinder.nwf.org.

Every habitat looks different! It's unique to your location, preferences, space, and even local restrictions. Many of the listed habitat features are things you can add to your garden, but some naturally-occurring elements may count towards certification too.

This abbreviated checklist is not comprehensive for all environments. You are encouraged to adapt the specific habitat essentials to what makes sense for your location.

Need a deeper dive? Learn more here:

Approved plant list

Common Name, Scientific Name, Shade Tolerance, Drainage Tolerance

Allegheny Blackberry; Rubus allegheniensis; Intolerant; Well–Somewhat Poorly
Allegheny Chinquapin; Castanea pumila; Intermediate; Well–Moderately Well
American Basswood; Tilia americana; Intermediate; Well–Moderately Well
American Cranberrybush; Viburnum opulus; Intolerant; Somewhat Poorly–Poorly
American Feverfew; Parthenium integrifolium; Intermediate; Well–Moderately Well
American Plum; Prunus americana; Intermediate; Well–Moderately Well
American Vetch; Vicia americana; Intolerant; Moderately Well–Somewhat Poorly
Anise-scented Goldenrod; Solidago odora; Intolerant; Moderately Well–Somewhat Poorly
Appalachian Blazing Star; Liatris squarrulosa; Intolerant; Well–Moderately Well
Basil Balm; Monarda clinopodia; Intermediate; Well–Moderately Well
Black Cherry; Prunus serotina; Intolerant; Well–Somewhat Poorly
Black Chokeberry; Photinia melanocarpa; Tolerant; Moderately Well–Somewhat Poorly
Black Elderberry; Sambucus nigra ssp. canadensis; Intermediate; Well–Somewhat Poorly
Black Huckleberry; Gaylussacia baccata; Tolerant; Well–Moderately Well
Black Locust; Robinia pseudoacacia; Intermediate; Well–Somewhat Poorly
Black Willow; Salix nigra; Intolerant; Somewhat Poorly–Poorly
Black-eyed Susan; Rudbeckia hirta; Intolerant; Well–Moderately Well
Blue Mistflower; Conoclinium coelestinum; Intermediate; Moderately Well–Somewhat Poorly
Blue Vervain; Verbena hastata; Intolerant; Somewhat Poorly–Poorly
Blue Wild Indigo; Baptisia australis; Intolerant; Well–Moderately Well
Boneset; Eupatorium perfoliatum; Intermediate; Somewhat Poorly–Poorly
Bottle Gentian; Gentiana andrewsii; Intermediate; Somewhat Poorly–Poorly
Browneyed Susan; Rudbeckia triloba; Intolerant; Well–Moderately Well
Calico Aster; Symphyotrichum lateriflorum; Intolerant; Well–Moderately Well
Canada Goldenrod; Solidago canadensis; Intolerant; Moderately Well–Somewhat Poorly
Canada Lily; Lilium canadense; Intolerant; Moderately Well–Somewhat Poorly
Cardinal Flower; Lobelia cardinalis; Intermediate; Somewhat Poorly–Poorly
Carolina Wood Vetch; Vicia caroliniana; Intermediate; Well–Somewhat Poorly
Chickasaw Plum; Prunus angustifolia; Intolerant; Well–Moderately Well
Common Buttonbush; Cephalanthus occidentalis; Tolerant; Poorly
Common Elderberry; Sambucus canadensis; Intermediate; Moderately Well–Somewhat Poorly
Common Evening Primrose; Oenothera biennis; Intermediate; Well–Moderately Well
Common Joe-Pye Weed; Eupatorium fistulosum; Intermediate; Moderately Well–Somewhat Poorly
Common Milkweed; Asclepias syriaca; Intermediate; Well–Somewhat Poorly
Common Pawpaw; Asimina triloba; Tolerant; Moderately Well–Poorly
Compass Plant; Silphium laciniatum; Intolerant; Well–Moderately Well
Crossvine; Bignonia capreolata; Intermediate; Moderately Well–Somewhat Poorly
Culver's Root; Veronicastrum virginicum; Intolerant; Well–Moderately Well
Cup Plant; Silphium perfoliatum; Intolerant; Moderately Well–Poorly
Deerberry; Vaccinium stamineum; Tolerant; Well–Moderately Well
Downy Woodmint; Blephilia ciliata; Intermediate; Well–Moderately Well
Drummond's Aster; Symphyotrichum drummondii; Tolerant; Well–Moderately Well
Dwarf Larkspur; Delphinium tricorne; Tolerant; Well–Somewhat Poorly
Early Figwort; Scrophularia lanceolata; Intolerant; Well–Moderately Well
Early Goldenrod; Solidago juncea; Intolerant; Well–Moderately Well
Eastern Gray Beardtongue; Penstemon canescens; Intermediate; Well–Moderately Well
Eastern Ninebark; Physocarpus opulifolius; Intolerant; Somewhat Poorly–Poorly
Eastern Purple Coneflower; Echinacea purpurea; Intolerant; Well–Moderately Well
Eastern Redbud; Cercis canadensis; Tolerant; Well–Somewhat Poorly
Eastern Rosemallow; Hibiscus moscheutos; Intolerant; Poorly

Approved plant list

Common Name, Scientific Name, Shade Tolerance, Drainage Tolerance

Fall Obedient Plant; Physostegia virginiana ssp. praemorsa; Intermediate; Moderately Well–Poorly
Fire Pink; Silene virginica; Intermediate; Well–Moderately Well
Flame Azalea; Rhododendron calendulaceum; Tolerant; Well–Moderately Well
Flat-topped White Aster; Doellingeria umbellata; Intermediate; Somewhat Poorly–Poorly
Foxglove Beardtongue; Penstemon digitalis; Intermediate; Moderately Well–Somewhat Poorly
Fragrant Sumac; Rhus aromatica; Intermediate; Well–Somewhat Poorly
Gayfeather; Liatris spicata; Intermediate; Moderately Well–Poorly
Giant Goldenrod; Solidago gigantea; Intermediate; Moderately Well–Somewhat Poorly
Giant Ironweed; Vernonia gigantea; Intolerant; Moderately Well–Somewhat Poorly
Goat's Rue; Tephrosia virginiana; Intermediate; Well–Moderately Well
Golden Alexanders; Zizia aurea; Intermediate; Well–Moderately Well
Gravelweed; Verbesina helianthoides; Intolerant; Well–Moderately Well
Great Blue Lobelia; Lobelia siphilitica; Intermediate; Moderately Well–Somewhat Poorly
Great Laurel; Rhododendron maximum; Tolerant; Moderately Well–Somewhat Poorly
Green-head Coneflower; Rudbeckia laciniata; Tolerant; Somewhat Poorly–Poorly
Gray Goldenrod; Solidago nemoralis; Intolerant; Well–Somewhat Poorly
Hairy Beardtongue; Penstemon hirsutus; Intermediate; Well–Somewhat Poorly
Hairy Bush Clover; Lespedeza hirta; Intolerant; Well–Moderately Well
Hairy-jointed Meadowparsnip; Thaspium barbinode; Intermediate; Well–Moderately Well
Heath Aster; Symphyotrichum pilosum; Intolerant; Well–Moderately Well
Henbit; Lamium amplexicaule; Intermediate; Well–Somewhat Poorly
Highbush Blueberry; Vaccinium corymbosum; Intolerant; Somewhat Poorly–Poorly
Hoary Mountainmint; Pycnanthemum incanum; Intermediate; Moderately Well–Somewhat Poorly
Hoary Vervain; Verbena stricta; Intolerant; Well–Moderately Well
Illinois Bundleflower; Desmanthus illinoensis; Intolerant; Well–Moderately Well
Intermediate Lespedeza; Lespedeza intermedia; Intermediate; Well–Somewhat Poorly
Jerusalem Artichoke; Helianthus tuberosus; Intermediate; Well–Somewhat Poorly
Late Purple American Aster; Symphyotrichum patens; Intolerant; Well–Moderately Well
Late Thoroughwort; Eupatorium serotinum; Intermediate; Moderately Well–Somewhat Poorly
Large-leaf Wild Indigo; Baptisia alba var. macrophylla; Intolerant; Well–Somewhat Poorly
Little Bluestem; Schizachyrium scoparium; Intolerant; Well–Moderately Well
Long-bract Wild Indigo; Baptisia bracteata var. leucophaea; Intolerant; Moderately Well–Somewhat Poorly
Long-sepal Beardtongue; Penstemon calycosus; Intolerant; Well–Moderately Well
Long-stalk Tickseed; Coreopsis lanceolata; Intolerant; Moderately Well–Somewhat Poorly
Lyreleaf Sage; Salvia lyrata; Intermediate; Well–Somewhat Poorly
Maryland Goldenaster; Chrysopsis mariana; Intolerant; Well
Maryland Senna; Senna marilandica; Intermediate; Moderately Well–Somewhat Poorly
Maximilian Sunflower; Helianthus maximiliani; Intolerant; Well–Somewhat Poorly
Mountain Laurel; Kalmia latifolia; Tolerant; Well–Moderately Well
Mountain Sweet Pepperbush; Clethra acuminata; Tolerant; Well–Somewhat Poorly
Missouri Ironweed; Vernonia missurica; Intolerant; Well–Moderately Well
Nannyberry; Viburnum lentago; Tolerant; Moderately Well–Somewhat Poorly
Narrowleaf Evening Primrose; Oenothera fruticosa; Intolerant; Somewhat Poorly–Poorly
Narrowleaf Mountainmint; Pycnanthemum flexuosum; Intolerant; Well–Moderately Well
Narrowleaf Whitetop Aster; Sericocarpus linifolius; Intermediate; Well–Moderately Well
New England Aster; Symphyotrichum novae-angliae; Intermediate; Somewhat Poorly–Poorly
New Jersey Tea; Ceanothus americanus; Tolerant; Well–Moderately Well
New York Ironweed; Vernonia noveboracensis; Intolerant; Moderately Well–Somewhat Poorly

Approved plant list

Common Name, Scientific Name, Shade Tolerance, Drainage Tolerance

Virginia Bluebells; Mertensia virginica; Tolerant; Moderately Well–Poorly
Virginia Blue Wild Rye; Elymus virginicus; Tolerant; Somewhat Poorly–Poorly
Virginia Bushclover; Lespedeza virginica; Intermediate; Well–Somewhat Poorly
Virginia Spiderwort; Tradescantia virginiana; Intermediate; Well–Moderately Well
Virgin's Bower; Clematis virginiana; Intermediate; Moderately Well–Somewhat Poorly
Washington Hawthorn; Crataegus phaenopyrum; Intolerant; Moderately Well–Somewhat Poorly
White Meadowsweet; Spiraea alba; Intermediate; Moderately Well–Somewhat Poorly
White Snakeroot; Eupatorium rugosum; Tolerant; Well–Moderately Well
White Turtlehead; Chelone glabra; Intermediate; Poorly
Whorled Rosinweed; Silphium trifoliatum; Intolerant; Well–Moderately Well
Wild Basil; Clinopodium vulgare; Intermediate; Well–Moderately Well
Wild Bergamot; Monarda fistulosa; Intermediate; Well–Moderately Well
Wild Blue Phlox; Phlox divaricata; Intermediate; Well–Moderately Well
Wild Hairy-fruited Senna; Senna hebecarpa; Intolerant; Well–Moderately Well
Wild Lupine; Lupinus perennis; Intermediate; Well–Moderately Well
Wild Mint; Mentha arvensis; Intermediate; Somewhat Poorly–Poorly
Wild Stonecrop; Sedum ternatum; Tolerant; Well–Moderately Well
Willowleaf American Aster; Symphyotrichum praealtum; Intolerant; Somewhat Poorly–Poorly
Winged Sumac; Rhus copallinum; Intolerant; Moderately Well–Somewhat Poorly
Wingstem; Verbesina alternifolia; Intermediate; Moderately Well–Poorly
Wood Sage; Teucrium canadense; Intermediate; Moderately Well–Poorly
Wholeleaf Rosinweed; Silphium integrifolium; Intolerant; Well–Moderately Well
Yellow Crownbeard; Verbesina occidentalis; Intolerant; Well–Moderately Well
Yellow Sneezeweed; Helenium autumnale; Intolerant; Somewhat Poorly–Poorly
Yellow Wild Indigo; Baptisia tinctoria; Intolerant; Well–Moderately Well
Zig-zag Spiderwort; Tradescantia subaspera; Intermediate; Well–Moderately Well

Approved plant list

Common Name, Scientific Name, Shade Tolerance, Drainage Tolerance

Virginia Bluebells; Mertensia virginica; Tolerant; Moderately Well–Poorly
Virginia Blue Wild Rye; Elymus virginicus; Tolerant; Somewhat Poorly–Poorly
Virginia Bushclover; Lespedeza virginica; Intermediate; Well–Somewhat Poorly
Virginia Spiderwort; Tradescantia virginiana; Intermediate; Well–Moderately Well
Virgin's Bower; Clematis virginiana; Intermediate; Moderately Well–Somewhat Poorly
Washington Hawthorn; Crataegus phaenopyrum; Intolerant; Moderately Well–Somewhat Poorly
White Meadowsweet; Spiraea alba; Intermediate; Moderately Well–Somewhat Poorly
White Snakeroot; Eupatorium rugosum; Tolerant; Well–Moderately Well
White Turtlehead; Chelone glabra; Intermediate; Poorly
Whorled Rosinweed; Silphium trifoliatum; Intolerant; Well–Moderately Well
Wild Basil; Clinopodium vulgare; Intermediate; Well–Moderately Well
Wild Bergamot; Monarda fistulosa; Intermediate; Well–Moderately Well
Wild Blue Phlox; Phlox divaricata; Intermediate; Well–Moderately Well
Wild Hairy-fruited Senna; Senna hebecarpa; Intolerant; Well–Moderately Well
Wild Lupine; Lupinus perennis; Intermediate; Well–Moderately Well
Wild Mint; Mentha arvensis; Intermediate; Somewhat Poorly–Poorly
Wild Stonecrop; Sedum ternatum; Tolerant; Well–Moderately Well
Willowleaf American Aster; Symphyotrichum praealtum; Intolerant; Somewhat Poorly–Poorly
Winged Sumac; Rhus copallinum; Intolerant; Moderately Well–Somewhat Poorly
Wingstem; Verbesina alternifolia; Intermediate; Moderately Well–Poorly
Wood Sage; Teucrium canadense; Intermediate; Moderately Well–Poorly
Wholeleaf Rosinweed; Silphium integrifolium; Intolerant; Well–Moderately Well
Yellow Crownbeard; Verbesina occidentalis; Intolerant; Well–Moderately Well
Yellow Sneezeweed; Helenium autumnale; Intolerant; Somewhat Poorly–Poorly
Yellow Wild Indigo; Baptisia tinctoria; Intolerant; Well–Moderately Well
Zig-zag Spiderwort; Tradescantia subaspera; Intermediate; Well–Moderately Well

BEGINNING BEEKEEPING WCCD BYCP

Project Description

Beekeeping is a rewarding hobby that encourages the care of pollinators. Bees are a valuable animal and resource that pollinates many of our crops. Beekeeping is one way to aid in the health and sustainability of honey bees.

Before committing to this project, understand that beekeeping is rewarding; however, there are many aspects and requirements to doing it properly.

Guidelines & Publications

Individuals who are interested in applying for the WCCD BYCP honeybee project area must meet the following criteria:

- Satisfy eligibility requirements of the KSU Beginning Beekeeper program (when avialable)
- Currently a member of the Warren County Beekeeper Association and/or KSBA
  - To join the Warren County Beekeepers contact: warrencountykybeekeepers@gmail.com or (270) 842-1681
- Complete 6 Beekeeping Continuing Education Units (CEU) and submit verifying documentation (Courses can be free with a membership to the Kentucky State Beekeepers Association)
- Commit to improving the genetics of Kentucky bees by agreeing to:
  - Purchase nucs/hives from local beekeepers and/or swarm trapping
  - Purchase queens with varroa mite-resistant genetics

Resources: https://www.kyagr.com/statevet/documents/OSV_Bee_Beginning-Beekeeping.pdf

Reimbursement available for:

- Veil *
- Hand smoker *
- Hive tool (hive tool with J hook is recommended) *
- Jacket
- Gloves (nylon)
- Basic hive box materials: base board, bottom screen, bottom board, inside cover, regular cover, frame (a Nuc box is recommended with five frames)
- Entrance excluder
- Front feeders
- Mite test
- Varroa and tracheal mite treatment

BAT HOUSES WCCD BYCP

Project Description

Did you know bats are pollinators? Not only are they pollinators, but globally, bats provide vital ecosystem services in the form of insect pest consumption, plant pollination, and seed dispersal, making them essential to the health of global ecosystems.

Guidelines & Publications

- When is this in season? Build anytime weather allows, and put up according to specs below.
- Are there location limits? Yes, refer to the specifications
- To receive cost-share for bat boxes, you may purchase premade bat houses from approved vendors

Resources: https://www.batcon.org/ , https://www.merlintuttle.org/

Reimbursement available for: prefab bat boxes from approved Martin Tuttle Bat Conservancy vendors (Austin Batworks, BatBnB, Bat Conservation & Management, Fly By Night, Inc., Habitat for Bats, Happy Bat Solutions, Swift River Pecans, WHITEHORSE)

Characteristics of a Quality Bat House

Roosting Chamber Width

- 3/4 in. preferred by most bat species (7/8–1 in. for big brown bats, 1–1½ in. only for larger bat species)
- At least 20 in. tall for better temperature regulation
- Build with tight-fitting joints and caulk all exterior seams to prevent leaks and warping

Chose durable materials

- Solid wood ¾ in. thick (preferred)
- Exterior wood parts at least ½ in. thick
- Exterior-grade plywood only
- Aluminum or UV-resistant plastic adds weather resistance
- Interior surfaces and landing areas must be roughened for grip
- Include a 4 in. landing area below the roosting chambers for easier entry and predator protection

Size & Color

- Double- or triple-chamber houses regulate temperature better than single-chamber
- Taller houses provide a wider range of temperatures
- Installing 2 or more bat houses with different colors or sun exposure increases success

Color Recommendations

- Cold climates: Dark brown or black; maximize sun exposure
- Hot climates: Medium to light brown, well-vented, with a metal roof or shade to prevent overheating

Best Mounting Locations

- Mount near freshwater (lakes, rivers) and mixed habitats
- Buildings are the best mounting sites because they stabilize temperature
- Avoid trees—they provide more shade, predators, and slower occupancy
- Mount bat houses at least 20 ft from tree branches or perches
- In warm climates, pole-mounted houses may need snake guards

When to Expect Bats

- A few days in high-demand areas
- Typically 2–6 months
- Sometimes 1–3 years or longer, especially for large houses
- Larger bat houses often take longer to attract bats but can eventually support very large colonies
- Do not use guano or attractants—they have not been proven to speed occupancy
- Patience is key; new locations often take 12–18 months before bats move in

PURPLE MARTIN HOUSES

WCCD BYCP

Project Description

Purple Martins are a nice option for pesky flying insect control. If you'd like to add some wildlife to your backyard, consider purple martin houses!

Guidelines & Publications

- When is this in season? Put up your Martin housing a few weeks before the Martins are due to arrive, around March 15. https://www.purplemartin.org/purple-martins/attracting/115/timing/
- To receive cost-share for this project, you must purchase a premade Martin house and follow the guidance below. It is recommended to review the resource below.

Resources: https://www.purplemartin.org/

Reimbursement available for: prefab Martin boxes

Purple Martin Housing Placement Guidelines

- Place Purple Martin housing in an open area with clear flight paths.
- Position the housing in the center of the largest open space available.
- Keep housing approximately 30–120 feet from human residences.
- Maintain a distance of at least 40–60 feet from trees.
- In the southern part of their breeding range, Purple Martins may tolerate housing as close as 25 feet to trees, but more open space is preferred.
- Select a location where you can easily observe the birds.
- The initial entrance orientation (north, east, south, or west) is not important.
- Once martins occupy the housing, keep the orientation consistent throughout the nesting season.
- Prevent the housing from spinning or twisting, as changes in orientation can disorient martins and cause nest abandonment.
- Do not attach wires to the house or pole that could provide predators access from trees, buildings, or the ground.

PURPLE MARTIN HOUSES WCCD BYCP

Purple Martin Housing Requirements

- Compartment minimum size is 6" × 6", deeper compartments (about 7" × 12" front-to-back) are preferred for better protection and comfort.
- Compartments must be large enough for 4–6 near-fledged nestlings plus both parents.
- Larger compartments help nestlings spread out and regulate temperature.
- Wood and natural gourds should have natural (unpainted) interiors.
- Slippery floors in metal or plastic housing should be avoided; textured subfloors help prevent leg deformities such as splayed legs.
- Individual compartment access during nesting season is required.
- Access allows monitoring, removal of invasive species nests, and end-of-season cleaning.
- Houses should have hinged doors, access caps, or similar entry points.
- Round entrance holes are typically 2-1/8" in diameter (acceptable range: 1-3/4" to 2-1/4").
- Round entrances should be positioned 1" to 1-1/2" above the floor or porch.
- Starling-resistant crescent entrances should be 3" wide by 1-3/16" tall.
- Crescent entrances should be no more than 1/2" above the porch/floor or mounted flush.
- Housing should include door plugs for off-season exclusion of other birds.
- Suitable materials include aluminum, thick plastic, wood, and natural gourds.
- Exterior housing should be white to reflect heat.
- Wood housing should use untreated lumber (recommended thickness: 3/4") for insulation.
- Suitable woods include cedar, cypress, pine, and redwood.
- Plastic housing should be thick and UV-resistant and not allow light penetration.
- Transparent or light-leaking plastic should be avoided due to overheating risk.
- Insulation may be added to metal or plastic roofs for temperature protection.
- Predator guards must be installed on all active housing.
- Pole guards should extend at least 4 feet above ground, poles are vulnerable to climbing predators such as snakes, raccoons, and squirrels.
- Deep compartments help reduce access by aerial predators by increasing nest depth.
- All housing should include owl guards or equivalent external protection.
- Hardware cloth (2" × 4" mesh) can be used to create removable protective cages.
- Housing should include ventilation, drainage, and insulation features.
- Roof overhangs help protect compartments from rain.
- Ventilation holes should be angled or placed under roof overhangs to prevent water entry.
- Drain holes should be included in compartment floors.
- Raised floors help prevent flooding and moisture buildup.
- Nestlings under 10 days old are highly vulnerable to chilling and hypothermia.

INVASIVE SPECIES REMOVAL

WCCD BYCP

Project Description

Invasive species are commonly used as landscape plants, but let's change that! This project will give homeowners the option to remove invasive plants to improve biodiversity.

Guidelines

- Mechanical Treatment **$5 per square yard of treatment area**

Mechanical control is an option if you do not wish to utilize chemicals. However, this option is very labor-intensive and time-consuming. This treatment involves the physical removal of invasive plants by hand-pulling small plants; and removing larger plants with weed wrenches or loppers. Plants that are larger or denser may require the use of Weed Eater™ with metal blades, shears/loppers, or similar equipment. Follow-up treatment will be required to control re-sprouting.

- Chemical Treatment **$5 per square yard of treatment area**

The most effective way to control most invasive species is with herbicides
that are applied during the growing season. In most instances, treatment requires two herbicide applications. **WCCD does not provide chemical recommendations.** However, they may be provided by the UK Cooperative Extension Service.
If chemicals are used, **follow all label instructions** including: mixing/loading setbacks from wells, intermittent streams and rivers, natural or impounded ponds and lakes, and reservoirs, etc. Select a chemical that will be effective in the first application. Oftentimes, mechanical treatment must occur concurrently with chemical application in the initial treatment. Following the initial application, some regrowth, resprouting, or occurrence of brush is to be expected. Spot treatment of individual plants or a follow-up foliar treatment should be performed while it is small (< 2 ft. in height) and most vulnerable to the treatment procedures. Stumps that are not chemically treated, deadened, or otherwise removed will resprout quickly.

- Professional Removal **up to $200 based on receipts**

Any invasive tree eight feet in height or taller may be considered for professional removal.

Required prior to approval: Measurement of affected area, photo and ID of invasive plant, field visit if necessary

Reimbursement available for:
Mechanical and chemical treatments are flat-rate reimbursements per square yard. Professional removal is 50% cost share up to $200.

Here are a few common invasive landscape plants:

- Bush Honeysuckles
- Purple Loosestrife
- Wintercreeper
- Crown Vetch
- Burning Bush
- Chinese Silver Grass
- Asian Bittersweet
- Japanese Knotweed
- Princess-Tree
- Bradford Pear
- Privet
- Lesser Celandine
- Sweet Autumn Clematis
- Autumn Olive/Russian Olive
- Porcelain-Berry
- Mimosa
- Chocolate Vine
- Japanese Barberry