

Example Outdoor Classroom Project Plan: SONGBIRD SANCTUARY

A **Songbird Sanctuary** is an area that provides a home or habitat (food, water, shelter & places to raise young) for songbirds. Native trees, shrubs, forbs and vines produce mast (nuts or fruit) that provide food for backyard birds while bird feeders can supplement their food sources. Trees and other plants can also provide shelter and places to raise their young, as well as artificial nesting boxes for cavity-nesting birds such as bluebirds or wrens. Water can be provided in bird baths, creeks or ponds. *Below are two Example Project Plans that you can use to create a songbird habitat in your school's outdoor classroom site.*

Location Selection Suggestions:

- Low Traffic Flow** (so that students are not continuously walking by the bird feeders and/or nesting boxes)
- Established "Cover"** (if you have existing bushes or trees so the birds will feel safe from predators you will not need to purchase them for your Materials List below)
- Area Approved for Digging** (areas where a tree(s) will be planted must not have any utility lines that could be damaged due to digging or from the root system(s) of the tree(s))
- Full Sun or Full Shade** (be sure to choose the appropriate plants based on your sunlight conditions)

Example Songbird Habitat Photo:



Estimated Costs:

- Simple Songbird Sanctuary (20 ft x 15 ft → ~300 sq ft): \$450
- Elaborate Songbird Sanctuary (35 ft x 20 ft → ~700 sq ft): \$1,215



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Tools, Materials & Supplies

- (4) Shovels (1 for adult & 3 for students)
- (1) Hammer & (1) Bag of Nails
- (20-30) buckets for students to move soil, organic material, mulch &/or landscape rock (as needed)
- (1) wheelbarrow to move soil, organic material, mulch, &/or landscape rocks (as needed)

Materials & Supplies		Estimated Cost	Source of Materials – (via Committee Member)	Monetary/ Item Donation
Simple Songbird Sanctuary: (20 ft x 15 ft → ~300 cu ft)		EST. COST: \$450		
Simple Songbird	(1) Mature Small Tree (<i>such as Dogwood, Redbud or Red Maple</i>)	\$40 total		
Simple Songbird	(2) Fruit-producing Bushes (<i>such as PawPaw, Spicebush or Viburnum</i>)	\$40 total		
Simple Songbird	(2) Evergreen Shrubs (<i>such as American Hollies, Bay Berry, or Wax Myrtles</i>) *do not use privet	\$40 total		
Simple Songbird	1/3 Potting Soil : 1/3 Compost : 1/3 Organic Material (<i>add this nutrient-rich soil mixture around the roots of the new plants as you plant</i>)	\$20 total		
Simple Songbird	Bird Bath (<i>be sure to get a stable bird bath that will not fall over</i>)	\$50		
Simple Songbird	“Bird Feeder Station” with 3 Shepherd Hooks & a Baffle (<i>to prohibit squirrels from climbing up</i>)	\$50		
Simple Songbird	(3) Bird Feeders – Tube Feeder, Hummingbird Feeder, Suet Cage &/or Hopper Feeder	\$40 total		
Simple Songbird	Bird Food –Black Oil Sunflower Seeds, Safflower Seeds, Thistle, Suet Cakes &/or Mealworms	\$30 (<i>per month depending on amount of food</i>)		
Simple Songbird	(2) Bird Houses & (2) 4” x4”x6’ Treated Lumber (<i>for cavity-nesting birds such as blue birds, chickadees, wrens, & woodpeckers</i>)	\$50 total		
Simple Songbird	(5) 3-4 inch Terracotta Clay Pots (<i>for Tree, Bush & other Plant ID Signs</i>)	\$5 total		
Simple Songbird	(1) Permanent Magic Marker (<i>to write plants’ names on terracotta clay pots</i>)	\$5		
Simple Songbird	Kiosk/Sign to Identify & Explain the Learning Station (<i>you can use “Small OC Kiosk” Project Plan on AWF’s website for materials details</i>)	\$60		
Simple Songbird	(3) 2 CF Bags of Cedar Mulch (<i>to put around new plantings</i>)	\$20 total		





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Materials & Supplies	Estimated Cost	Source of Materials – (via Committee Member)	Monetary/ Item Donation	
Elaborate Songbird Sanctuary: (25 ft x 20 ft → ~500 cu ft) EST. COST: \$1,215				
Elaborate Songbird	(2) 20 gallon Small Trees (<i>such as Dogwood, Red Bud, or Red Maple</i>)	\$160 total	<i>Example: Nancy’s Nursery – via Sandy Smith</i>	<i>Example: Donated both trees</i>
Elaborate Songbird	(4) Fruit-producing Bushes (<i>such as Viburnum, Spicebush or PawPaw</i>)	\$80 total		
Elaborate Songbird	(4) Evergreen shrubs (<i>such as American Hollies, Bay Berry, or Wax Myrtle</i>) *do not use privet	\$80 total		
Elaborate Songbird	(4) Seed Packets (<i>for Purple Coneflowers, Black-Eyed Susans, Coreopsis & Sunflowers</i>)	\$5 total		
Elaborate Songbird	1/3 Potting Soil : 1/3 Compost : 1/3 Organic Material (<i>add this nutrient-rich soil mixture around the roots of the new plants as you plant</i>)	\$30 total		
Elaborate Songbird	Motorized Bird Bath with a Pump (<i>sounds of moving water attracts birds</i>)	\$150		
Elaborate Songbird	(2) “Bird Feeder Stations” with 6 Shepherd Hooks & 2 Baffles (<i>to prohibit squirrels from eating</i>)	\$100		
Elaborate Songbird	(6) Bird Feeders – <i>Tube Feeder, Hummingbird Feeder, Suet Cage &/or Hopper Feeder</i>	\$80		
Elaborate Songbird	Bird Food – <i>Black Oil Sunflower Seeds, Safflower Seeds, Thistle, Suet Cakes &/or Mealworms</i>	\$50 (<i>per month depending on amount of food</i>)		
Elaborate Songbird	(2) Bird Houses & (3) 4” x4”x6’ Treated Lumber (<i>for cavity-nesting birds such as blue birds, chickadees, wrens, & woodpeckers</i>)	\$60		
Elaborate Songbird	(1) Spy-Cam Bird House gardeningwithkids.org/23-5001.html	\$150		
Elaborate Songbird	(14) 4 inch Terracotta Clay Pots (<i>for tree, bush or other plant ID Signs</i>)	\$15 total		
Elaborate Songbird	(1) Permanent Magic Marker (<i>to write plants’ names on clay pots</i>)	\$5		
Elaborate Songbird	Kiosk/Sign to Identify & Explain the Learning Station (<i>you can use “Small OC Kiosk” Project Plan</i>)	\$60		
Elaborate Songbird	(6) 2 CF Bags of Cedar Mulch (<i>to put around new plantings</i>)	\$40 total		
Elaborate Songbird	Landscape Rock for Border around trees & gardens	\$150	<i>(from 1 ton pallet?)</i>	



☐ Songbird Sanctuary Native Plant Suggestions: *Always use native plants when possible. Avoid non-native, invasives that will take over and destroy habitat instead of enhancing it!

Small Trees (12-36 ft)	Fruit-Bearing Bushes	Evergreen Bushes	Vines
Chickasaw Plum, <i>Prunus angustifolia</i>	American Beautyberry, <i>Callicarpa americana</i>	American Holly, <i>Ilex opaca</i>	Carolina Jessamine, <i>Gelsemium sempervirens</i>
Eastern Redbud, <i>Cercis canadensis</i>	Blueberry, <i>Vaccinium corymbosum</i>	Yaupon Holly, <i>Ilex vomitoria</i>	Coral Honeysuckle, <i>Lonicera sempervirens</i>
Flowering Dogwood, <i>Cornus florida</i>	Elderberry, <i>Sambucus nigra</i> spp. <i>canadensis</i>	Wax Myrtle, <i>Marella cerifera</i>	Crossvine, <i>Bignonia capreolata</i>
PawPaw, <i>Asimina triloba</i>	Maple-leaf Arrow-wood, <i>Viburnum acerifolium</i>	Forbs/Wildflowers	Purple Passion Flower, <i>Passiflora incarnata</i>
Red Buckeye, <i>Aesculus pavia</i>	Red Chokeberry, <i>Photinia pyrifolia</i>		Trumpet Creeper, <i>Campsis radicans</i>
Large Trees (40-80 ft)	Serviceberry, <i>Amelanchier arborea</i>	Black-eyed Susan, <i>Rudbeckia fulgida</i>	Virginia Creeper, <i>Parthenocissus quinquefolia</i>
Black Cherry, <i>Prunus serotina</i>	Southern Spicebush, <i>Lindera melissifolia</i> (Walter) Blume	Cardinal Flower, <i>Lobelia cardinalis</i>	Grasses
Common Hackberry, <i>Celtis occidentalis</i> L.	Sparkleberry, <i>Vaccinium arboreum</i>	Joe Pye Weed, <i>Eupatorium maculatum</i>	
Eastern Redcedar, <i>Juniperus virginiana</i> L.	Sweet Shrub, <i>Calycanthus Floridaus</i>	Lanceleaf Tickseed, <i>Coreopsis lanceolata</i>	
Red Maple, <i>Acer rubrum</i> L.	Virginia Sweet Spire, <i>Itea virginica</i>	Purple Coneflower, <i>Echinacea purpurea</i>	

☐ Construction Tasks:

1) Procure the tools, materials & supplies, and have them on-hand the morning of your “Construct a Songbird Sanctuary (or Outdoor Classroom)” Day.

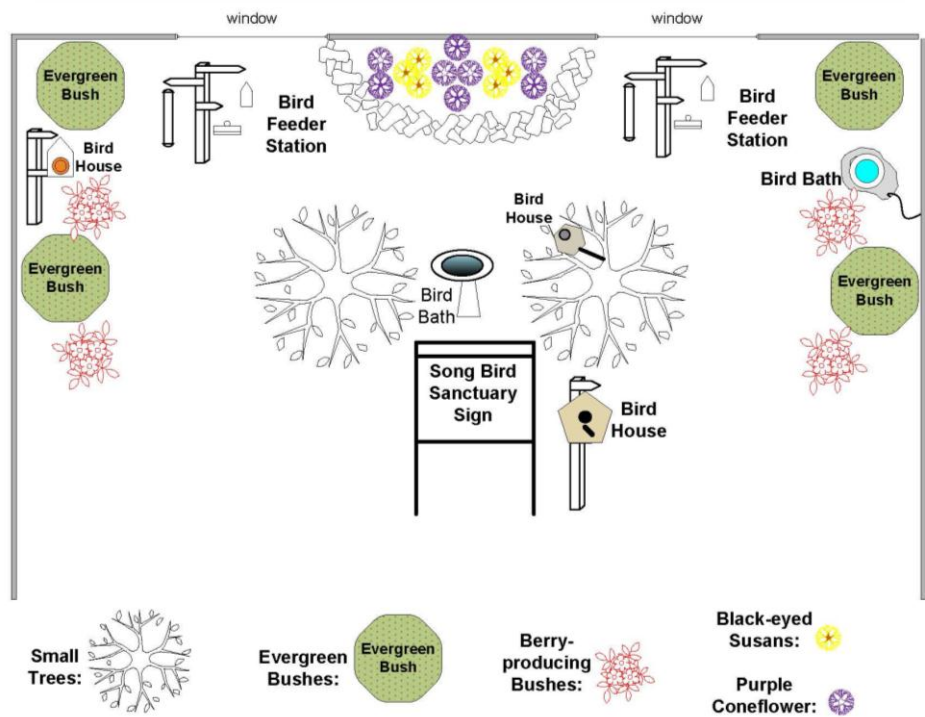
2) Decide where you want to plant your tree(s), bushes, &/or other plants, and place the plants in those locations.

Note: Be sure that the plants are spaced out appropriately allowing them to grow to their mature size without touching or impeding the growth of other plants around them.

Review the example Songbird Sanctuary diagram. →

Example Outdoor Classroom Songbird Sanctuary Schematic

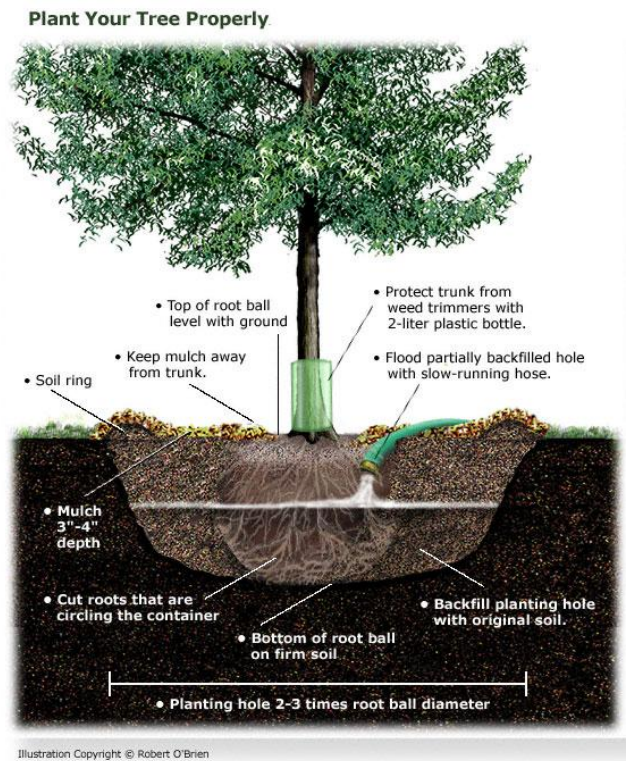
By April Lupardus Waltz, Alabama Wildlife Federation



For office use only: 1 sq. = 1 ft. @ 100%

3) Plant the tree(s). See *Alabama Cooperative Extension Publication ANR-1405 for tree planting instructions.*

- ❑ Dig a hole two to three times the width of the root ball of the tree and three inches deeper than the height of the root ball.
- ❑ Mix the soil that has been excavated with a soil amendment that includes some type of compost or organic matter to create an enriched soil for the tree to grow in.
- ❑ Loosen the soil at the bottom and sides of the hole, and then add three inches of the enriched soil into the bottom of the hole.
- ❑ Remove the tree from the pot, and loosen the roots by hand. If the roots wrap around the root ball, try to loosen them or cut them so that they can spread outward. If the tree is in a burlap ball, place the tree in the hole and then carefully cut the burlap bag and let it fall into the hole. The burlap will biodegrade with time.
- ❑ Place the tree in the hole, making certain that the trunk of the tree is straight and not leaning to one side. The top of the root ball should be even with the ground or slightly higher by no more than an inch.
- ❑ Fill the hole around the root ball with the enriched soil, and then thoroughly soak it with a hose.
- ❑ Once it is saturated, slightly press your foot on the soil around the root ball to help stabilize the root ball and to remove potentially harmful air pockets in the soil.
- ❑ Cover the area with 2-3 inches of mulch and water thoroughly twice a week for the first few months.



4) Plant the fruit-bearing & evergreen shrubs following the same steps as those for planting the tree (above).



5) Choose a spot for your bird feeder station(s) that is at least six feet from the closest tree or limb to help keep squirrels from jumping on the bird feeders. If possible, pick a location in front of a hall window where students can watch the birds. Install the bird feeder station(s) with shepherd hooks and a baffle half way up the pole.



6) Fill the bird feeders with seed, suet, meal worms, fruit, etc, and then attach each bird feeder to a shepherd's hook.



7) Install the bird bath(s) and add water to the basin(s). If you have a motorized bird bath with a pump to circulate the water and to attract birds with the sound of running water, then install it near an electrical outlet. Choose bird bath location(s) that is at least 6 feet from trees and bushes so that predators such as house cats cannot ambush the birds in the bird bath.

8) Choose locations for bird houses (or nesting boxes) that are as far apart as possible while still remaining in the outdoor classroom area. If you are installing multiple bluebird boxes, then you will want to choose locations at least 50-100 yards apart, preferably so that bluebirds using the two nesting boxes cannot see each other.



9) Attach bird houses to top of 4" x 4"s. (Note: Add a "baffle" or predator guard to the pole under the bird house if needed.) Dig 1 ft deep hole to install 4" x 4"s one foot in the ground to stabilize the bird houses (or nesting boxes). Use concrete around the base of the 4"x4" in the hole if needed; if not, then pack dirt back in hole around the base of the 4" x 4".

10) Put plant identification signs by new plantings, and install educational signs (ex/ Small OC Kiosk) wherever needed to explain the details of the songbird sanctuary and the importance of providing habitat for local songbirds.



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☐ Maintenance Guidelines:

- ☐ September – May (once every month): Update the Songbird Sanctuary sign/kiosk with seasonal information about what birds have been seen in the songbird sanctuary, which birds are migrating through in the fall and spring, which birds (if any) have built nests the sanctuary, etc.
- ☐ September – May (twice a week or as needed): Refill bird feeders. Also, take antibacterial wipes to wipe down the feeders, especially around the openings where the birds lean in to get to the food.
- ☐ September – May (once every month): Clean out the bird feeders with antibacterial dishwashing liquid, warm water and a scrub brush.
- ☐ September – May (once every three months): Clean out the bird feeders (details above), and then place the bird feeders in a bucket of water with bleach for 24 hours to give them a thorough cleaning.
- ☐ September – May (once every month): Clean out the bird bath(s) with warm water, antibacterial dishwashing liquid, and a scrub brush.
- ☐ November (once a year): Add mulch around plants as needed.
- ☐ February (once a year): Trim limbs and cut off dead limbs off bushes and trees.
- ☐ February & possibly May (once or twice a year): Clean out the birdhouse(s) with diluted bleach and a scrub brush each February before the nesting season begins. After the chicks have fledged (flown and left the nest), you can clean out the box in case another family would like to use it.
- ☐ April (once a year): Plant the black-eyed susan and purple coneflower seeds after the first frost.
- ☐ April – October (once or twice a week): Water the black-eyed susans and purple coneflowers. *Note: Do not “deadhead” the plants in the fall as migrating birds such as the American Gold Finch will eat the seeds.*
- ☐ All Year (once a week or as needed): Water the bushes and small trees.

☐ Songbird Activity Ideas:

- ❖ **Math:** Calculate the volume and weight of bird food the birds consume during one week and one month.
- ❖ **Science:** Hypothesize which food source the birds will utilize most, and monitor their feeding activity in the songbird sanctuary to determine if your hypothesis was correct. Try to determine if they eat natural food sources such as berry-producing bushes or artificial food sources such as suet.
- ❖ **Language Arts:** Write an expository article about how your outdoor classroom is a sanctuary for songbirds.
- ❖ **Social Studies/Geography:** Monitor when ruby-throated hummingbirds and robins visit your bird feeders, and track their migration patterns online at JourneyNorth.org.
- ❖ **Art:** Decorate the bird feeders and nesting boxes. Sketch a bird that you see, paying special attention to its unique features including the shape and size of its body, beak, head, wings, and tail feathers.
- ❖ **Conservation:** Use recycled products to build bird feeders and nesting boxes.
- ❖ **Literature Connections:** *Birds, Nests & Eggs* by Mel Boring (ISBN-10: 155971624X)

The Alabama Outdoor Classroom Program is a partnership between:



Alabama Cooperative Extension System



Alabama Wildlife Federation



Alabama Department of Conservation & Natural Resources

