

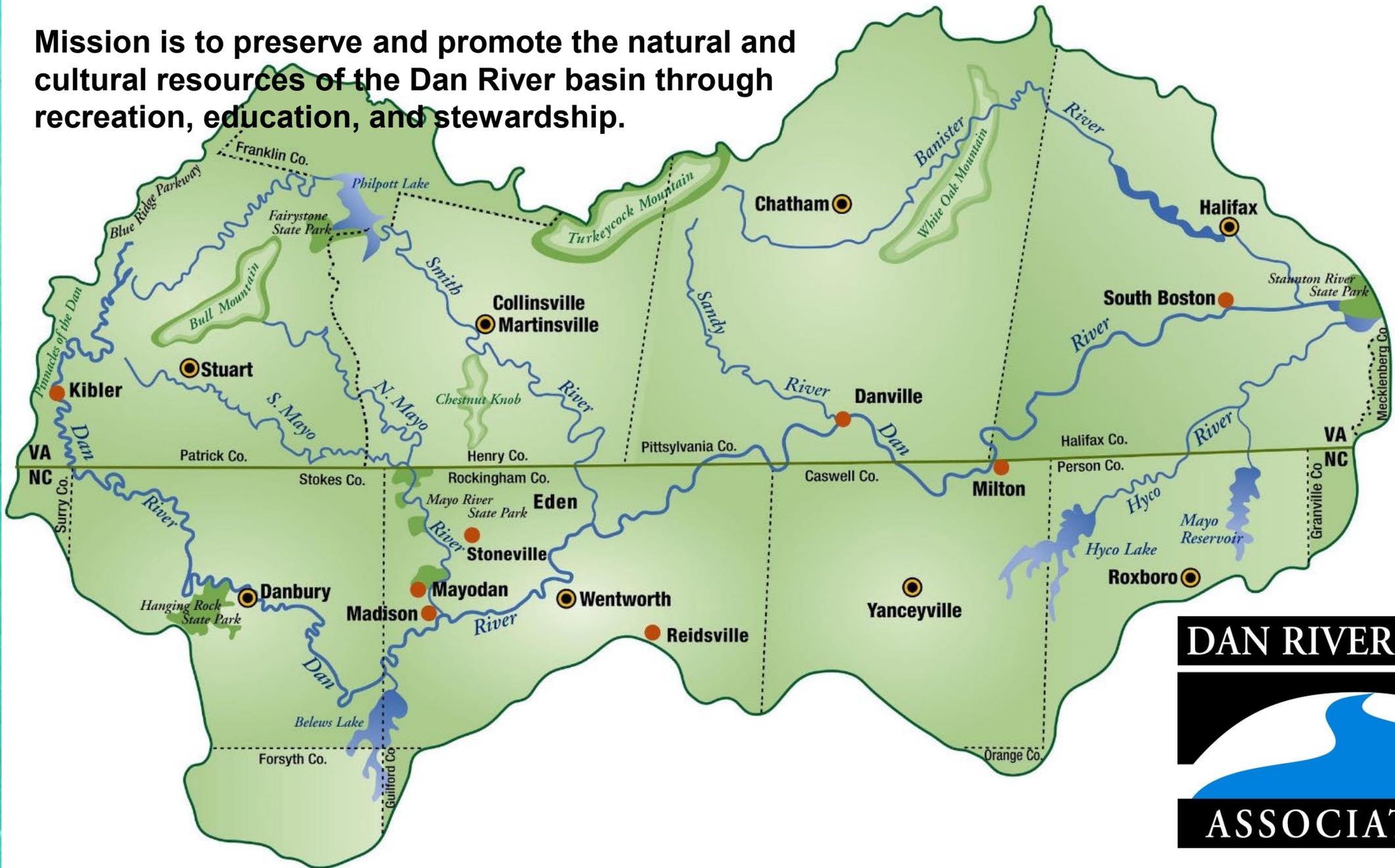
Creating Your Own Green Schoolyard

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Mission is to preserve and promote the natural and cultural resources of the Dan River basin through recreation, education, and stewardship.



Why should I create a green schoolyard?

When students participate in hands on learning activities, they gain a real world perspective on the standards they are learning in your class.

This results in higher confidence levels and improved test scores for your students.



Where do I begin with a Green Schoolyard?



Steps to Creating Your Own Schoolyard

1. Complete the schoolyard assessment.
2. Create your current inventory list, if anything.
3. Determine what solutions you want to add to your schoolyard & what your schoolyard can accommodate. (ex. Rain barrels, rain garden, vegetable garden, butterfly garden, etc.)
4. Create a wish/phase list. (Phase one/year one, phase two/year two, etc.)
5. Once you have a wish list, determine what your budget is. You may have some funding available, but if not, you can determine how much you may need to raise or request.
6. Establish a community partnership.
7. Complete grant proposals.
8. Begin with low-hanging fruit – do you have any current supplies that can make the process easier?
9. Receive grant and implement phase 1.
10. Complete phase 1 and continue with phase 2 – complete more grants.

Don't forget to celebrate your success and have others join you!

Some things to think about...

- A good first step is to have your students complete a School Campus Assessment.
- Where would be a good location for your green schoolyard? Does it allow easy access for students? Is it a safe place for students to work?
- Will you have access to water? Are there downspouts which could be fitted with rain barrels to make plant watering easier?
- Does this area receive adequate sunlight for things to grow?
- Will your plans impact how school grounds are maintained? Remember to include school custodians in the decision making process.



I know where I want my green courtyard to go, but I am not sure what I will need.



- Did you discover any assets which can be used in your green schoolyard? Repairing an item or replacing non-working parts can be a money saver.
- Remember to ask school custodians if there are any items in storage which could be used in your project. This is especially important if your school used to have an outside learning space.

Our School Campus Assessment revealed

- Rain barrels which needed minor repairs to be functional
- 2 composters which could be cleaned up and used
- 1 butterfly garden which needed attention
- Rocks which could be used around our butterfly garden
- 1 bird feeder students could use to feed visiting birds



The rain barrels and composters were in good shape.

The Dan River Basin Association holds rain barrel workshops each year for educators and members of the community at a low cost.

Send out a needs email to see if your coworkers have materials you need that they no longer are using.



Albert Harris
Elementary students
now have 2 working
rain barrels which
provide students
water for their flowers.

The rain barrels not only
collect rain water, but water
from cooling units on top of
the school.



As you begin thinking about implementing your plan, ask yourself ...



- What grade level(s) do you want to reach?
- Which teachers in your building are interested in helping you?
- Can you get volunteers when extra help is needed?
- Are there any after school programs who would like to participate?



Phase 1



Phase 2

How can I break my plan down into phases? Start small.



How do I create a budget for my green schoolyard?



 **COMMUNITY
FOUNDATION**
SERVING WESTERN VIRGINIA

**GATEWAY
STREETSCAPE**

- Determine what it is going to cost to implement your first phase.
- Some materials, like the pallets for our composter, were donated for our project.
- The mulch for our butterfly garden was also donated by a community organization.
- Grant from Community Foundation Serving Western Virginia in Martinsville for supplies & materials
- Grant from Kansas Biological Society for milkweed plants

Community partners like the Dan River Basin Association can bring expertise and experience to your project. Who are your school's community partners?



Trout in the Classroom



Streamside Trees in the Classroom



Green Schoolyard Initiative

How am I going to fund my green schoolyard?



- Determine if there are any local sources for grants.
- If you have never written a grant proposal before, ask if any of your co-workers have grant writing experience.
- Look online to find grants which align with your project.
- Are there after school programs who want to help fund your project?



Remember to start with low hanging fruit ...
Plan Phase 1 and complete it before starting Phase 2



What did we include in Phase 1?

- Rain Barrels – **2018-19**
- Monarch waystation certification - **2018-19**
- Butterfly garden improvements – **2018-19**
- Monarch Interpretive signage – **2018-19**
- Composting program - **2018-19**
- Grow lights in greenhouse - **2018-19**

Growing Up a Monarch Butterfly

This specialized habitat provides:

- FOOD:** Native milkweed for Monarch Caterpillars
- SHELTER:** Woody trees and shrubs protect Monarchs
- FOOD:** Nectar plants for Monarch Adults and pollinators
- WATER:** Mud puddles provide moisture and minerals

Habitat for Monarchs
This habitat is a certified Monarch Waystation. Monarch Waystations are places that provide all of the resources necessary for monarchs to produce successive generations and sustain their migration. Without milkweeds throughout their spring and summer breeding areas in North America, monarchs would not be able to produce the successive generations that culminate in the migration each fall.

Monarch Waystations
CREATE, CONSERVE, & PROTECT MONARCH HABITATS

Monarch Butterfly Life Cycle

Adult → Egg → Caterpillar → Chrysalis → Adult

To learn more about the Monarch Butterfly and Waystations, visit MonarchWatch.org.

Milkweeds and nectar sources are declining due to development and the widespread use of herbicides. Development in the U.S. is consuming habitats for Monarchs and other wildlife. As of August 2019, over 26,000 Waystation habitats have been registered through Monarch Watch.

Monarchs need our help!

This project was funded in part by Community Impact Funds through the Community Foundation Serving Western Virginia

Is it male or female?

Male Monarch: A small black spot appears on one vein in the center of the hindwings on the male but not on the female.
Female Monarch: No black spot.

Logos: DAN RIVER BASIN ASSOCIATION, COMMUNITY FOUNDATION SERVING WESTERN VIRGINIA, Danriver.org

Albert Harris Elementary Green Schoolyard Project

Here you can see our Green Schoolyard project mapped out.

We held a ribbon cutting with school board members, press, students, and principal in October 2019.

Second grade teachers and Special Education teachers are working to start composting outside.

We are planning our urban garden plot for winter vegetables.



What's in Phase 2?

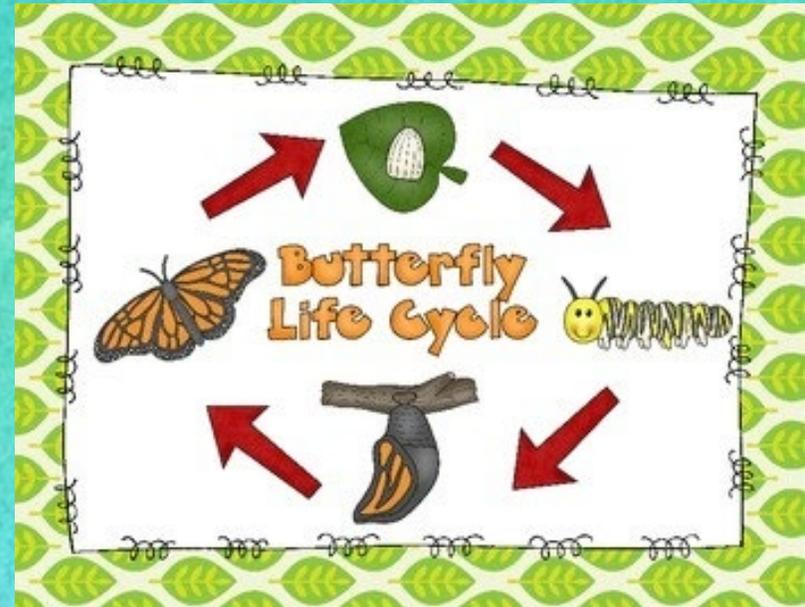
- Weather station
 - Rain gauge – **2019-20**
 - Thermometer – **2019-20**
 - Wind Sock – **2019-20**
 - Weather vane – **2019-20**
- Paint rain barrels – **2020-21**
- Storm drain marking - **2020-21**
- Outdoor white board – **2020-21**



Life Cycle of a Butterfly Manipulative

Materials:
chenille stem
plastic egg
coffee filter
magic markers
water spray bottle
toilet paper tube

Tools:
Scissors
Ruler (optional)



Directions

First, cut a $\frac{1}{4}$ section off of chenille stem and create your caterpillar.

Second, using magic markers color the coffee filter to create your butterfly.

Remember to have a line of symmetry. Use lots of colors to create a colorful butterfly.

After you have finished coloring, spray the coffee filter with water. Set the coffee filter on the newspaper to dry.

Directions continued...

Third, once your butterfly is dry- you will use an accordion fold to shape your butterfly. Start at one end and fold until it is completely folded.

Fourth, use the remaining $\frac{3}{4}$ of your chenille stem to create the caterpillar's body. Fold the chenille stem in half and center the coffee filter. Twist the chenille stem to create the body. Shape the ends of the chenille stem to make antennae.

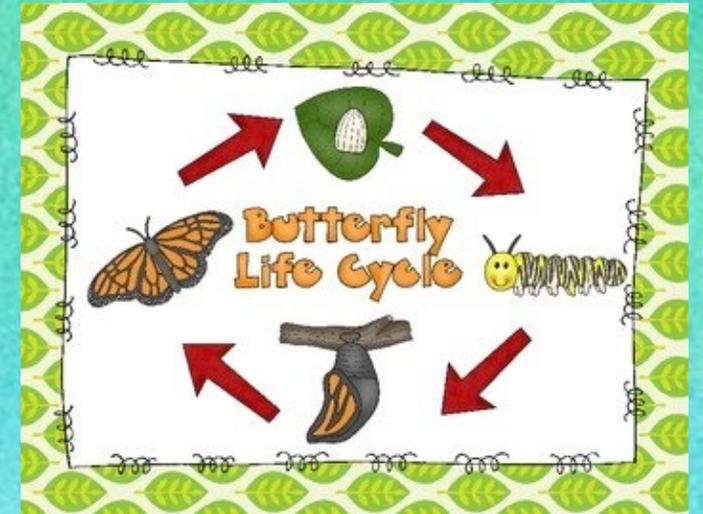
Directions continued...

Fifth, color the toilet paper tube to create the chrysalis.

Sixth, lay out your finished materials.

To tell the life cycle of the butterfly, you will use everything you have created.

First the caterpillar hatches from the egg. The caterpillar eats and eats until it is ready to create its chrysalis. The butterfly emerges from the chrysalis.





We are going to make a classroom composter that you can use in your classroom.

- Fresh Fruit & Vegetable Program
- Problem Based Learning- What can I do with my leftovers so they do not go in the trash?
- Aligns with Virginia Standards of Learning for the unifying concept of Earth Resources.
- K.11, 1.8, 2.8, 3.8, 4.8 and 5.9
- Benefits other school initiatives



We are going to make a classroom composter that you can use in your classroom.

- Starting with classroom composters.
- Using the lid and extra soil reduces the chance of fruit flies.
- The compost they are making will comprise the first layer in our outside composter.
- The composter has three sections- one is for brown matter, one is for active composting, and one for finished compost.



We are going to make a classroom composter that you can use in your classroom.

Coffee Can Composters

- Empty coffee can
- Spoons
- Push pin drills
- Soil
- Cup
- Organic materials



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Questions?

Email:
khodges@danriver.org

Thanks for coming!



Questions and Answers following Webinar:

1. How large does the butterfly garden need to be to become a certified Monarch Waystation? **Answer:** The Monarch Waystation needs to be a minimum of 100 sq ft to be certified. Our garden at Albert Harris Elementary is 12x12. Visit Monarch Watch (www.monarchwatch.org) to learn more about the requirements to become certified. The application is also found here. A small fee is required to become certified. You will also need to do research to find out what plants work for your area and will bloom throughout all seasons. It may be beneficial to contact a local nursery to help you with this process as well. We used Raywood Landscape Nursery in the Danville area.
2. How long does it take to become a certified butterfly/Monarch Waystation garden? **Answer:** For us, it took about one school year from start of researching the plants to purchasing and planting them in the spring. Albert Harris already had an established butterfly garden area, so we just improved it to become certified. You may need to factor in tilling and other maintenance needs for prepping the area, so it may take longer.

Questions and Answers following Webinar:

3. Has anyone ever tried aquaponics with Trout in the Classroom?

Answer: Yes, it has been done before, but on a small scale. However, there are enough nutrients to grow plants from the coldwater system and trout.

4. Feel free to contact Krista Hodges at khodges@danriver.org, if you have any additional questions! Also, visit our website at danriver.org on the For Educators page to find the schoolyard assessment and other resources.

