APPLICATION FORM

All applications must include the following information. Separate applications must be submitted for each eligible program. **Deadline: July 1, 2020.** Please include this application form with electronic entry.
If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact Gage Harter.

PROGRAM INFORMATION

County: Fairfax County

Program Title: My Field Journal

Program Category: Environmental

CONTACT INFORMATION

Name: Danielle Wynne

Title: Ecologist IV

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SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: Craig Carinci

Title: Director, Stormwater Planning Division

Signature: Craig Carinci

Proposal for 2020 VACo Award:
Fairfax County Department of Public Works and Environmental Services

Program Title: My Field Journal

State the problem, challenge or situation faced by the locality and how the program fulfilled the awards criteria (innovation, partnering or collaboration and a model for other localities). Tell how the program was carried out, including financing and staffing, and the program's results.

The Fairfax County Field Journal is a hands-on education tool that connects thousands of students to their local watershed and the Chesapeake Bay, while also providing an opportunity for teachers to relate state-mandated standards of learning to real world experiences. This program is offered free of charge by ecologists from the Department of Public Works and Environmental Services (DPWES) in Fairfax County, Virginia. For many years, Fairfax County Public Schools (FCPS) expressed the need for students to have a field journal that is closely connected to Virginia's Standards of Learning. The Fairfax County Field Journal is the response to this need. The goal of the journal is to combine focused watershed-based education activities with individual journaling opportunities to create a product that meets the educational goals of county teachers and environmental goals of county staff. The journal allows students across grade levels to learn about their watershed and the importance of stormwater management, learn about and apply science curriculum skills and concepts, and get outside to connect with, explore, and protect their natural world.

Figure 1. Front cover of Fairfax County Field Journal

Finding ways to connect students to nature within a school framework has become increasingly difficult. Fairfax County is the 10th largest public-school system in the nation with 196 schools and centers and 189,000 students. While every student *should* have the opportunity to experience their local streams and watershed firsthand, this is not always possible. Specifically, while there are several outdoor education programs available to schools, it is not always feasible for teachers to take advantage of them. Most notably, with such a large school system, it is financially and logistically impossible to send every student on a field trip set up for meaningful watershed experiences. Furthermore, science curriculums keep expanding and require teachers to address a variety of state-mandated standards of learning in their instruction every day. With the heavy focus on preparing students for their standards of learning tests, it can be hard to find time for other nontraditional education experiences. Thus, for many years, the school system has expressed the need for a hands-on education tool with pre-defined activities that connects students to their local ecosystem and aligns with teaching requirements.

Fairfax County Stormwater Watershed Education and Outreach (WEO) staff listened to this need. The Fairfax County Field Journal is the result of a partnership between the county and school system, and successfully introduces students to stormwater management and their local watersheds through a variety of interactive activities. In the fall of 2018, Fairfax County Public School science curriculum writers and environmental education staff and WEO came together to form a cohesive vision. By working with schools from the beginning, we ensured that the content would match the needs of the school system.

Collectively, we decided to create a product that could be used by both 4th and 9th grade students. In 4th grade, students have several environmental and watershed-based standards of learning, making this grade a great candidate for a tool like the field journal that would naturally lend itself to tackling a lot of this content. In 2019, Fairfax County Public Schools launched a 9th Grade Environmental Science class for students who need an alternate science option to Biology. Because the Environmental Science course did not have an SOL at the end of the year, students who are not fluent in English or have other needs make up most of the class. The field journal is a great alternative learning tool for these students who may struggle in a traditional science classroom setting.

Once we identified our audience, we developed three types of activities:

1. Structured,
2. Semi-Structured, and
3. Unstructured.

Activity Types	*Goal of activities*
Structured	The complex and involved activity option. They are often multi-step or multi-part and may need to be completed overtime, during multiple sessions. These are activities that connect directly to school science curriculum and/or stormwater and watershed management topics. Some examples of a structured activity include having students make their own watershed map, walk their campus and identify storm drains, and test soil compaction.
Semi-Structured	Offer students and teachers a different type of challenge. These activities typically start with a guided question such as "Think about your personal impact on the environment. Take a walk around your school campus. Make a list of ways that humans have impacted this site" or "Write a letter to yourself. Speak for nature—give it a voice." These activities connect science to language arts and may work better for students who are more comfortable with, or need to work on, their writing skills.
Unstructured	Gives the students the option of true nature journaling. These pages are mainly blank, but some include an inspirational quote or a small drawing. The journal also offers tips and tricks on how to nature journal since this may be a new experience for students. There are also several blank pages and pages of graph paper in case the students need room for any additional data collection.

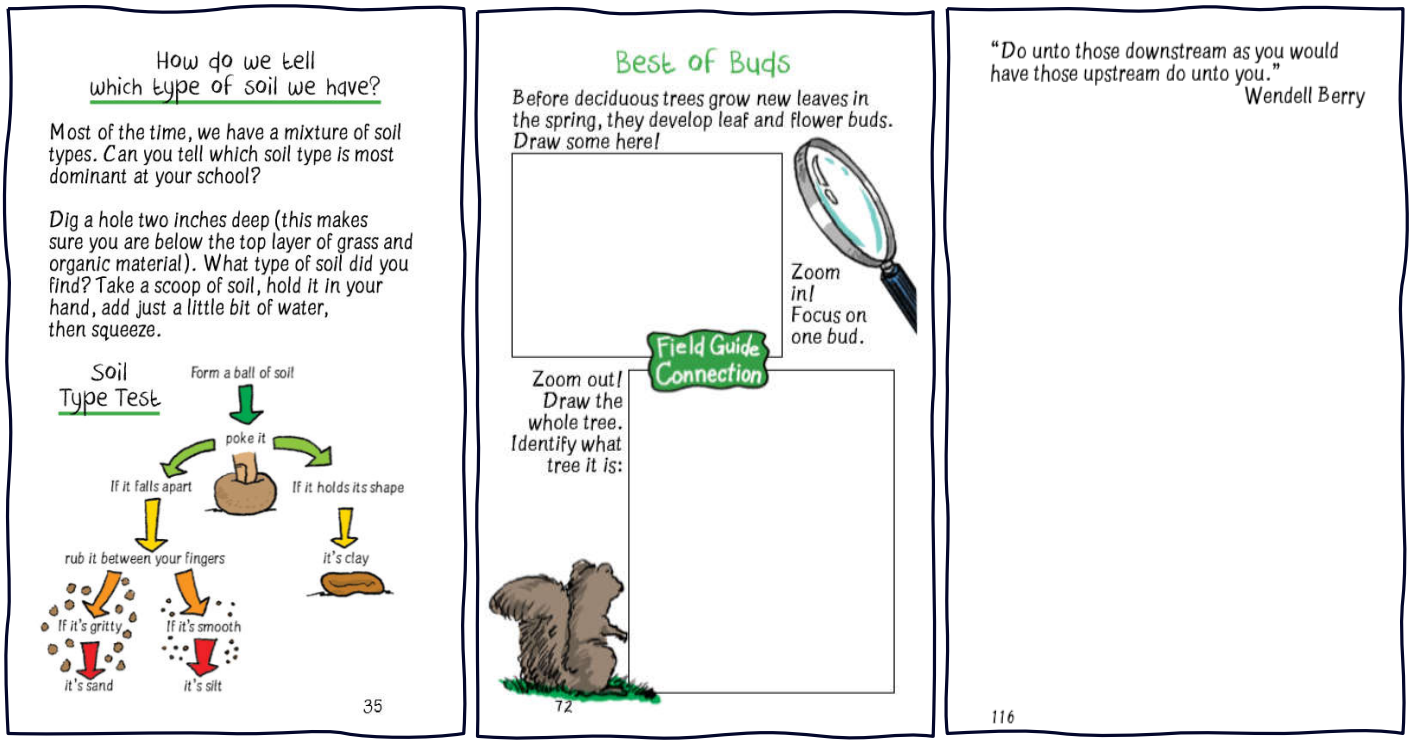

Figure 2. Left: A page from the structured "Soil Type Test" activity. Middle: The semi-structured Best of Buds activity page. Right: An unstructured, open-ended journaling page with an inspiring quote.

The variety of activities gives students and teachers the flexibility to determine which type of activity works best for them. In addition, very few of these activities require supplementary materials. This makes the journal as accessible as possible to all teachers and students, regardless of access to resources. By late fall 2019, journals were distributed to all 4th grade and 9th grade Environmental Science classrooms. The journal was provided to more than 16,000 students in the 2019-2020 school year free of charge to make meaningful watershed education experiences accessible to all students, regardless of access to local waterways, while also addressing standards of learning.

The cost of the program is minimal compared to the product. The illustrations and layout cost around $15,000. While the cost of the consultant was significant, we were able to justify this cost as it was necessary to create a high-quality product that met our goals. The field journal is 144 pages and cost only $1.70 per book when printing 16,000 copies.

The 2019-2020 school year was our pilot year for the program, where we received a variety of feedback, including:

- *"The students really like them. They love the colorful images. Doesn't look scary..."*
- *"The watershed address activity was helpful. Students could see how local water ends up in the Chesapeake Bay."*

We've also had some constructive comments, which we have already used to revise our journal for next year:

- *"We don't have many trees on campus so those activities have not been practical for us."*
- *"Some of my older students (19-21 year olds) feel silly using these books because they are written for a younger audience."*

Currently, the content of the 4th grade journal and the 9th grade journal are the same. Since many of the 9th grade students are ESOL students, we felt that having an easier reading level would be a better tool. As we receive comments and suggestions from teachers and updates to the Virginia Standards of Learning, we have begun developing new activities and modifying existing activities. We are creating two separate versions of the field journal to better meet the differentiated needs of 4th and 9th graders. We anticipate the need to revisit and revise the

journal frequently in the years to come in order to meet the ever-changing needs of students and teachers.

Throughout the years of developing and implementing new programs and products, one of the most important lessons we have learned is that a product is never 100% complete. You should never just hit print year after year and expect it to continue to be relevant or meaningful. This journal was written with the knowledge that we were not going to get it 100% correct in the first year. Or probably the second or third either. We will utilize comments from teachers, students, and curriculum writers to find where we can fully combine the needs of the school system with the education goals of Fairfax County government.

The Fairfax County Field Journal offers a new and much requested service to Fairfax County Public Schools and beyond by allowing students to learn about the importance of stormwater management, apply science curriculum skills and concepts, and get outside to connect with, explore, and protect their natural world. Students who use the journal expand their working knowledge of watershed science, practice scientific thinking skills, and can make connections between behaviors and environmental impacts. Fairfax County benefits from an educated community. The Field Journal is also not only applicable locally, but easily transferable to other jurisdictions across the country to assist with environmental awareness and foster environmental stewards. Notably, two jurisdictions, the City of Harrisonburg and City of Alexandria, have been granted permission to use digital copies of the field journal to share with their residents.

Due to the COVID-19 pandemic, the field journal was also made available online as a PDF at www.fairfaxcounty.gov/publicworks/stormwater/watershed-education-and-outreach. We hope that this tool can be utilized by students and residents to connect with nature while social distancing and help meet remote learning needs.

Include an executive summary of the program (no more than one page double-spaced) that can be used as a quick reference guide for judges.

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County benefits from an educated community. The Field Journal is also not only applicable locally, but easily transferable to other jurisdictions across the country to assist with environmental awareness and foster environmental stewards.

Include a brief overview of the program (2-3 paragraphs) that can be used for press releases, brochures, etc.

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The goal of the journal is to combine focused watershed-based education and activities with inspired journaling to create a product that meets the needs and aims of both teachers and the county. The journal allows students across grade levels to learn about their watershed and the importance of stormwater management, learn about and apply science curriculum

skills and concepts, and get outside to connect with, explore, and protect their natural world. With a variety of activities, ranging from structured labs to blank freeform journaling pages, the journal gives students and teachers the flexibility to determine which type of activity works best for them. In addition, very few of these activities require additional materials. This makes the journal as accessible as possible to all teachers and students, regardless of access to resources.

Students who use the journal expand their working knowledge of watershed science, practice scientific thinking skills, and can make connections between behaviors and environmental impacts. Fairfax County benefits from an educated community. The Field Journal is also not only applicable locally, but easily transferable to other jurisdictions across the country to assist with environmental awareness and foster environmental stewards.