# OUTDOOR AMERICA™

PUBLISHED BY THE IZAAK WALTON LEAGUE OF AMERICA 2023 ISSUE 1

## Youth Power: New Inspirations for Action and Engagement

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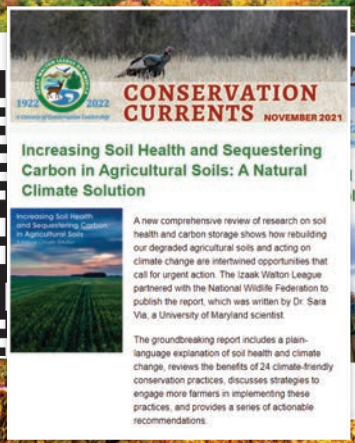


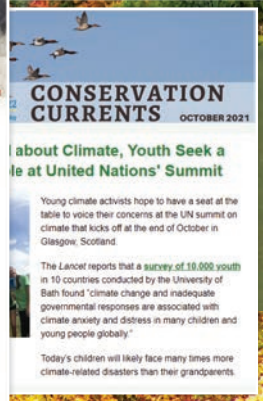


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# OUTDOOR AMERICA™

PUBLISHED BY THE IZAAK WALTON LEAGUE OF AMERICA VOL. 88 NO. 1


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2023, ISSUE 1

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**ON THE COVER▶** Green Crew youth and advisors gather for training
Credit: Green Crew

**CONTENTS▶** Sunrise on Potomac River
Credit: Michael Reinemer

ABOUT THE IZAAK WALTON LEAGUE OF AMERICA▶
Founded in 1922, the Izaak Walton League of America is a national conservation organization headquartered in Gaithersburg, MD. Our more than 40,000 members protect and enjoy America's soil, air, woods, waters and wildlife. For membership information, call (800) IKE-LINE (453-5463) or visit our website at www.iwla.org.


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# To Build Engagement, Let People Know Who We Are

**VICKI ARNOLD** | NATIONAL PRESIDENT

As I write this article our days are getting longer, a sure sign our chapters will all be back up and running full time very soon. Right now, members are deciding what youth programs to sponsor, what conservation programs the chapter will host, when the first clay pigeon of spring will fly and how to get more members engaged and remain engaged.

Chapters have probably planned the first three of those items many times before and will be decided very easily. The last item—getting and keeping members engaged—could be the hardest to figure out.

Our chapters are struggling with how to stay open and get everything done without burning out those members who are already volunteering. Maybe what we need is to look at our leadership, membership and our local communities and develop a plan that works for all three of these. Easier said than done, right?

## Leadership, membership, community

Why look at leadership? No matter how good our leaders are, there are a number of reasons we might want to look at making a change. A new perspective on issues. We sometimes miss the opportunity to improve because it is just easier to continue doing what we have always done. Or maybe the current leader would like to enjoy the organization without all the responsibilities.

Why look at membership? Have you ever gone somewhere where you were welcomed warmly, invited to join the organization but then were quickly forgotten? Is it possible some current members have not really connected to the group and find it difficult to stay engaged? People don't join an organization just because it's there; they join for a reason. Make sure we know why someone joins our organization and how we can help them be more involved.

**Let's make sure like-minded individuals know who we are, what we stand for and how important they are to our efforts.**

And also look at your

community. How have we involved the community in our conservation efforts? Have we shared with our local government the benefits we add? Potential new members, with new perspectives, may live nearby yet have no idea the Izaak Walton League is there. Get involved. Invite local officials to your chapter for a tour or hold an open house at a local library. Make sure neighbors know about your efforts to promote conservation in your community and how important that is to everyone.

You didn't just join the League for something to do; you joined because you believed in the cause. Let's make sure like-minded individuals know who we are, what we stand for and how important they are to our efforts.

OUTDOOR AMERICA

# THE IZAAK WALTON LEAGUE OF AMERICA

MEMBERS WITH QUESTIONS OR CONCERNS ABOUT LEAGUE POLICIES CAN REACH OUT TO THEIR NATIONAL DIRECTOR. FOR CONTACT INFORMATION, CALL THE LEAGUE'S HEADQUARTERS AT (800) IKE-LINE.

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## IZAAK WALTON LEAGUE OF AMERICA MISSION STATEMENT

*To conserve, restore and promote the sustainable use and enjoyment of our natural resources, including soil, air, woods, waters and wildlife.*

WWW.IWLA.ORG

# Putting Our Vision into Action for a Second Century of Conservation Leadership

SCOTT KOVAROVICS | EXECUTIVE DIRECTOR

As the Izaak Walton League celebrated our 100th anniversary last year, we also unveiled an ambitious vision for our second century of conservation leadership.

This vision builds on the League's enduring strengths: community-based conservation and volunteer science; advocacy for common-sense conservation policies; and connecting people to the outdoors. The vision isn't simply aspirational; it includes specific steps we all can take to achieve our goals for conservation and outdoor recreation.

With the celebration behind us, it's time to implement the vision. Success depends on collaborative action across all levels of the League, and with partners, committed volunteers and so many Americans who share our goals.

Every chapter and member can help put our vision into action this year. Here are a few thoughts about how to get started.

Begin by identifying chapter strengths. Every League chapter does something (often many things!) well. Focus on one or two clear strengths and then develop a basic action plan to build on them over the next 12 months.

Keep it simple. If your chapter's strength is:

**Stream monitoring**—Add one more site to assess or use simple tools from the League to expand monitoring to address chloride or nitrate pollution.

**Shooting sports competition and safety training**—Host an event specifically for the public to try target shooting with expert support.

**Implementing conservation projects**—Expand your reach and impact by leading a project in the community.

**Policy advocacy**—Help others learn how to get involved and be effective.

Although chapters need to take the first steps locally, there is an incredible array of resources and support to help put your plans into action:

Resources from the League's national office. From volunteer science to outdoor recreation, the national office and our staff are here to support you with everything from training in your community to free stream monitoring supplies and assistance engaging the media and policymakers.

Local partners. Most chapters have robust local partnerships and deep roots in their communities. You know the resources well – leverage them.

Support from your fellow Ikes! Nationwide, members and chapters are leading new initiatives and successfully tackling challenges every day. Don't hesitate to call on your colleagues for advice and support.

Last year, we celebrated the League's incredible record of achievement during our first century. As we embark on the second, let's build on that legacy by achieving our vision for the future.

# LETTERS

## Reflections on Attending the National Convention

At the national convention in East Peoria in 2022, I valued the opportunity to get to know the convention process and also meet Ikes from the other states and exchange points of view over coffee.

There were inspiring speakers about the energy grid, climate and the impact of soil health on public health. I very much appreciated the League's move to embrace climate change as part of the challenge for our second century.

I learned a lot about how the League works that will be quite useful at future conventions. And I was pleased to have been able to improve a draft resolution on behalf of Minnesota Ikes.

Later I learned that the League's national office collaborated with other environmental groups in filing an amicus brief with the Supreme Court on the Waters of the United States case that was argued before the high court in October. It was gratifying to have played even a minor role in that case.

I attended two very interesting workshops. In Jared Mott's workshop on the resolution process, I sought to better understand how policy can transition to effective action.

In the Farm Bill workshop, I tried to move the discussion on that bill toward mechanisms for better accountability for water quality by suggesting a requirement for efficacy monitoring for federally funded conservation practices.

Attending my first national convention convinced me of the clear advantages of being there in person to advance national support for chapter advocacy and to enhance League policy. I hope to use what I learned in 2022 to be an even better representative of Minnesota Ikes at future conventions.

*Willis Mattison, Prairie Woods Chapter, Minnesota*

**Letters to the editor**
Letters can be mailed to the editor at:
707 Conservation Lane, Gaithersburg, MD 20878
or emailed to mreinemer@iwla.org.
Letters may be edited for length and clarity.

## *Happy Anniversary*

***Congratulations to the Izaak Walton League chapters celebrating big milestone anniversaries in 2023.***

### 100th Anniversary
*Chartered in 1923*

**Bill Cook Chapter** *(Wisconsin)*
**Dubuque Chapter** *(Iowa)*
**Frederick #1 Chapter** *(Maryland)*
**Maquoketa Valley Chapter** *(Iowa)*
**Rochester Chapter** *(Minnesota)*
**Terre Haute Chapter** *(Indiana)*
**Watertown Chapter** *(Wisconsin)*

### 75th Anniversary
*Chartered in 1948*

**Decatur Chapter** *(Illinois)*
**Peoria Chapter** *(Illinois)*
**Rockingham-Harrisonburg Chapter** *(Virginia)*
**Woodford County Chapter** *(Illinois)*

# The Power of Youth and the Power of Stories

**By T.A. Barron**

*As the Izaak Walton League begins its second century,* Outdoor America *is asking people about the coming challenges and priorities for conservation.*

**T.A. Barron is a best-selling writer for young readers, a conservationist and outdoorsman.** His books include *The Merlin Saga, The Great Tree of Avalon,* and *The Hero's Trail.* His podcast, "Magic and Mountains," features interviews with a diverse array of leaders in conservation.

T.A. Barron, author and conservationist.

TA BARRON

*What young people need is to know they have power. They can make a positive difference. They can inspire humanity to make better choices.*

Here's our interview with T.A.

**OA: How should we approach the next century of conservation advocacy?**

**T.A.:** There is no higher calling than saving our beautiful planet that supports all life. That is great and meaningful work. What we do today can shape the entire future for our kids and grandkids and all living creatures. So let's include all sorts of people in our conservation work, even those who don't currently feel the urgency of environmental challenges.

**OA: What are your insights into engaging youth in environmental causes?**

**T.A.:** Young people really want to help. They already understand the Earth is in trouble—with accelerating climate change, water scarcity and wildlife extinctions. They already know our beautiful planet needs people to fight hard for our future.

What young people need, though, is to know they have power. They can make a positive difference. They can inspire humanity to make better choices.They can truly help us to save ourselves, our fellow creatures and our most cherished places.

That's why I created the Gloria Barron Prize for Young Heroes (which I named after my mother, a lifelong outdoorswoman). The whole point of the prize is to honor amazing kids who are actively making our world better, and to inspire more young people to do the same.

**OA: With all the difficult environmental challenges we face, what gives you hope?**

**T.A.:** My greatest hope comes from young people. Their high ideals, positive energy, honesty, and fresh sense of wonder are fabulous. They inspire me every single day—as a dad, a writer, and a conservationist. Besides, those awesome kids also make me laugh.

Nature too gives me hope. Nature is incredibly resilient, a source of endless inspiration—if only we will give it more help. So let's do that, with all our hearts. No work today is more needed, more important, or more meaningful.

*The best stories carry big, powerful ideas. They can inspire us and move us and empower us.*

And one more thing: if we're going to save the Earth, we need to tell better stories. Not just because stories can be great fun and exciting adventures—but also because the best stories carry big, powerful ideas. They can inspire us and move us and empower us. For example, think of the Biblical story of Noah's Ark, where God asked Noah to save two of every kind of living creature. In this time of biodiversity crisis, what could be a more powerful metaphor to inspire our own lives?

## THE POWER OF YOUR OWN STORYTELLING

The power of storytelling isn't restricted to authors who make the best-seller list. It also applies to Izaak Walton League members and chapters.

Embedded in the League's rich history and in our activities in communities nationwide are countless stories that can engage people and inspire action. A successful conservation project that will benefit wildlife or water quality. A program that introduces the community to outdoor traditions and adventures. "Aha" moments for children and adults alike.

Ahead: look for tips from the League on how to bring these stories to life.

Michael Reinemer, Editor

# Youth Power: Green Crew Invites Engagement

By INGRID KOEHLER,
Secretary, Green Crew

Green Crew youth leaders and adult advisors gather for first day of Leave No Trace training.

**After logging the hottest summer for the sixth consecutive year, 2022 was historic for global warming and climate change discourse alike.**

**Like the rising temperatures, climate is a hot topic. For the 27th United Nations Climate Summit (the 27th Conference of Parties, COP27), politicians from countries spanning five continents gathered in Egypt to discuss initiatives to develop a path toward a more sustainable environment for all. Still, COP27 only represents a small percentage of the world population experiencing "eco-anxiety."**

**And while the adults deliberated in Egypt, a group of teenagers in Minnesota formed a club called Green Crew to help address an array of environmental issues.**

## View from the Crew

Green Crew is the youth program of the **Minnesota Valley Chapter** of the Izaak Walton League and a Venturing crew of the Boy Scouts of America (BSA).

By design, the Green Crew asserts a new power dynamic where the youth are in charge. Borrowing from the BSA model, the Crew is powered by the will of the youth participants while the adults provide support. It is a service-based organization, and the service projects are designed to be ongoing, science-based initiatives.

### Organized for volunteer science

At its first organizational meeting, the Green Crew elected youth officials including a president, secretary and treasurer and most importantly, the members appointed a chief science officer to serve in a key leadership position. Next, an executive team was formed with six positions and a variety of support roles.

The chief science officer and adjoining science team members review all projects to ensure that each incorporates the most effective practices and uses proven scientific methods. That team also builds in a continual evaluation of their hypothesis to ensure improvement. Many of the projects are part of citizen science projects and collaborate with local scientists.

### Coming together with training

Before any projects could be organized, the Crew had to earn the qualifications in order to determine the methodology of the organization. In its early months, all youth and adult members were given the opportunity to undergo an optional but helpful Leave No Trace training, which focuses on ethical interaction in nature. In short, "leave the outdoors as you found it" is the guiding principle. The training was an intensive immersion over one weekend on the seven principles of Leave No Trace.

"I really enjoyed that we were learning how to apply those seven principles to our everyday lives, not just when we're out on the trail camping," Green

GREEN CREW

Crew member Griffith Pugh remembers. The lessons ranged from safe fire preparation to respecting visitors and wildlife.

Together, we learned each principle and then each person arranged and demonstrated a mock-lesson for the entire group.

Camille Morton, our Green Crew president, recalls how "the training set the foundation for the Crew and gave us all an idea of what we should accomplish through this organization." The Leave No Trace training established core values in addition to providing the perfect bonding opportunity for the founding members.

"Before, we were just high schoolers from different walks of life, and then we became a real team," says Grace Fikke. For a brand-new Crew, the training was an essential experience for development and close connections.


**The Crew is powered by the will of the youth participants while the adults provide support.**

### Getting right to work: Invasive species

A high school freshman at The Blake School, Hannah Barisonzi, is one of the Green Crew founders. Barisonzi spent six months designing a program to reduce the harm of invasive plants like buckthorn and garlic mustard. She spent months coordinating with the BSA and the board at the League's Minnesota Valley Chapter to develop the project. The goal is to restore a healthy ecosystem of native Minnesota plants and animals.

Barisonzi also works with the Minnesota Invasive Terrestrial Plants and Pests Center on a field study of American elm trees that have been bred to have a natural resistance to Dutch elm disease. This spring, 50 trees from five different sample groups, including a control group, will be planted on Chapter property, in addition to participation from neighboring property owners.

"American elm trees were an important part of the native forests, and should play an important part in urban forests," she says. "This project is one small but important step to reintroducing them to the ecosystem."

### Tree Equity

The Tree Equity project is a major initiative started by Suryash Rawat, another founding member of Green Crew. Tree equity, which has captured growing attention, aims to restore low-income urban areas with native and climate-resilient trees.

In urban areas, trees help to provide cooler temperatures and better air quality as well as beauty and quality of life. But unfortunately, many lower-income urban neighborhoods lack the abundance of trees needed to provide those benefits. Rawat explains, "We need to have plants and sustainable native trees that are really good for the environment and really, really good for the city."

Crew member Sophie Herron adds, "In my opinion, the most important thing about the Tree Equity project is the fact that it acknowledges that caring about the environment also involves caring about other people." Rawat and Herron are an unstoppable duo and a vital asset to the club.

**"The most important thing about the Tree Equity project is the fact that it acknowledges that caring about the environment also involves caring about other people."**

In the spring of 2023, all members and volunteers will unite and plant 50 trees in Landfall, a manufactured home community. Landfall lost its

**To create an avenue for outdoor education, the Green Crew built a trail through the Minnesota Valley Chapter property.**

NICOLETTE JOHNSON; GREEN CREW

## Partners with elementary school

The Green Crew has reached out and developed partnerships with local environmental organizations, government agencies and schools. Last summer the Green Crew hosted students going into fifth and sixth grade from a summer program at The Blake School.

The campers came out to the Crew House once a week for "Green Camp." In the mornings, the Green Crew youth volunteers led a nature walk, a Leave No Trace exercise and a water quality sampling hike through the nature reserve to the Minnesota River. In the afternoon, the campers assisted the youth leaders in conservation service projects. This coming summer, the Green Crew is partnering with three additional summer school programs for a total of four days a week.

urban tree coverage due to the emerald ash borer infestation that has impacted native species across the Midwest. The Green Crew is raising funds to take down the dead and dangerous trees and then buy and plant new, resilient native trees. Rawat notes, "We want those trees to stay there and be able to withstand the weather and all the conditions that the city is going to put on them."

Tom Yuska serves as the equally devoted adult advisor for the tree project and is especially excited to mentor young leaders. "It's a passing of the baton of knowledge and experience from caring adults to eager youth." Yuska says the Green Crew helps to smartly prepare them "to most effectively and proactively mitigate the dire consequences of climate change that have been forced upon them and will really affect their lives and their futures."

Following the Tree Equity launch in 2023, Green Crew is looking to increase the number of trees planted each spring, expand into more native plant species and, in the process, increase the biodiversity within these communities.

## River Walk project

Grace Fikke, the Green Crew's current chief science officer, directs the River Walk project alongside Sophia Peterson. Both attend The Blake School and are part of the founding team. The River Walk is orchestrated to use the latest technology to monitor the water quality of the nearby wetlands and floodplains that flow into the Minnesota River.

River Walk activities include taking samples directly from the Minnesota River to record the pH balance and check for toxic pollutants. This project is highly interactive and is especially popular among elementary and middle school volunteers.

Tom Crawford is the adult advisor for Grace Fikke and cheerfully states, "I am most proud of the River Walk program's ability to get community members out in the Minnesota River Valley to investigate and appreciate the complexity and the importance of the Minnesota River floodplain."

The River Walk provides the opportunity for all to participate in a real lab experiment and provoke curiosity about science in a real-world setting. Ron Asher, employee at The Blake School and a frequent volunteer in the River Walk, emphasizes, "The real value of that experience for our students and also for


**The Crew tables at community events like the Minnesota State Fair.**

our teachers, was how our day at the river connected to our work in the classroom."

## Land Restoration project

The Land Restoration project, or also referred to as ReWilding, ties in with the strategies of the Invasive Species Removal and Tree Restoration projects that are used to improve native habitats in Minnesota.

Essentially, land restoration involves developing a specific "rewilding" plan for the ecologically sensitive property, including erosion prevention, invasive species removal and native habitat restoration.

Joshua Berger and Griffith Pugh are two high school juniors who have stepped up to organize the project and coordinate with experts in the metro area. The two are part of the executive leadership cabinet: Joshua Berger is treasurer at Green Crew and Griffith Pugh is the vice president of programming. Berger explains, "By learning how to take care of the land, we learn lessons about how to take care of the earth."

In fact, one major act of land restoration was completed in the spring of 2022 with the creation of the Nicolette Trail along the property of the Minnesota Valley Izaak Walton League Chapter House. Nicolette Johnson, a leader of both Green Crew and Scouts/BSA, recognized the plot of land as a potential site for outdoor learning. "The space at the Chapter House is beautiful and rich with wildlife, so I wanted people to be able to engage with nature," she said.

The Nicolette Trail was the first successful public project since the launch of Green Crew and attracted community members from all walks of life. After the trail was completed, Johnson was able to earn her Summit Award, the highest honor in the BSA Venturing Program.

## Fungus Diversity project

The Fungus Diversity project was started by college freshman Wayatt Dayoff as part of a national citizen science study documenting fungal diversity. The project explores the positive and negative roles of fungi in ecosystems and provides useful information about these widely misunderstood organisms. Joshua Berger and Griffith Pugh participate in the Fungus Diversity project alongside Dayoff.

"I'm totally blown away by this fungus project that we have kind of ongoing for the next 10 years," says Pugh. "I didn't even know we could do this. We're looking at how fungus growth on our chapter property is affected by climate change."

**The fungus project aims to shed light on these fascinating but often misunderstood organisms.**

Observation is a key component within the process of this project and employs every step of the scientific method, Berger reiterates. "I think the fungus project is a great example about how we have a science-based approach to conservation, and we don't do what we do based upon what we initially think, but rather what science tells us."

### Pollinator Habitat project

The Pollinator Habitat is the newest project for the members of Green Crew and involves growing native plants to support the populations of pollinators. Unlike past initiatives, this project is a joint effort among neighborhoods. The purpose is to encourage homeowners to consider adding native plants to their landscaping. Ava Elie, a founding member of Green Crew, is passionate about supporting endangered pollinators such as bees. "I want to help because pollinators are so important

**"I didn't even know we could do this. We're looking at how fungus growth on our chapter property is affected by climate change."**

to the ecosystem: they help spread diversity among plants and increase seed production in plants." Elie and a small crew of volunteers will start by planting a model pollinator garden at the Minnesota Valley Chapter House and then begin educating the surrounding neighborhoods. The ultimate goal is to maintain the pollinator gardens on our property, coordinate a pollinator plant sale and launch a service to support neighbors' conversions from turf grass to native pollinator-friendly yards. The team will welcome Katie Christianson, an Eagle Scout, to assist the Pollinator Habitat project this coming spring.

Green Crew is all about connecting to the environment and building up the confidence to tackle climate change. The future of environmental activism is dependent on youth participation to set the foundation of sustainability for generations to come. Since joining Green Crew, I have met hundreds of youth who share the same passion and together, we are making progress in the community.

*Ingrid Koehler is a senior at Edina High School and joined Green Crew during January 2022. She is involved with Rotary Global Scholars and is publishing a research article on the topic of clothing sustainability.*

## An Innovative Model for League Chapters

The Green Crew is committed to launching Venturing crews across the United States with the knowledge that there are youth and adults who would like to roll up their sleeves and make a real difference. In November, the official blog of the Boy Scouts of America featured the story of the launch of the Green Crew and its close connection to Scouting.

All of the youth and the new adult advisors of the Green Crew are automatically members of the Minnesota Valley Chapter of the Izaak Walton League and have gotten involved directly in Chapter business, activities and programs.

In the fall of 2022, two of the Green Crew youth members—Camille Morton and Suryash Rawat—were elected to the Chapter Board. Camille is co-leading the effort to establish a Division Youth Defender Award and is coordinating a May art show at the Koubla Gallery in the Crew House. Suryash Rawat leads the Chapter's Stewardship Committee, establishing policies and procedures to make our Chapter House a model of sustainable living. He helped to coordinate an educational event with U.S. Senator Tina Smith on the homeowner rebates available from purchasing solar panels as an energy source for houses.

The Green Crew model, along with the tools and

## HOW TO START A GREEN CREW

Our adult and youth leaders are committed to developing a network of Green Crews working together all across the country. We are developing a set of tools and resources to support this effort.

### Start the Conversation

Start sharing this article and the Green Crew website with potential members, advisors, and partners. Explore the level of interest in making a commitment to launch a Crew.

### Complete the Initial Assessment

The Green Crew team has developed an assessment for evaluating the "readiness" of a particular location to launch a Green Crew. We have ranked the assets which we believe are needed to be successful in launching a Green Crew.

### Review the Assessment with Green Crew Leadership

Our team will review the results of the assessment with you and develop a roadmap that will make sense in your community.

### Develop the Leadership Team

Based on the road map, a leadership team needs to be organized which includes youth, members from the chapter, and critical partners.

### Customize a Launch Plan

Under the guidance of the Green Crew, a launch plan will be customized from our templates. It will build on the local assets and connect with national resources.

### Secure Youth and Adult Training

Green Crew will provide in-depth onsite training for all new associated Crews.

### Launch

We can't wait to get you up and running with a solid youth-led program that is part of the Green Crew network. It all starts with an email and video conference with the executive director of youth programming at the Minnesota Valley Chapter of the Green Crew.

By Joseph Barisonzi

systems, has developed and will support League chapters to be successful. From the legal agreements, technology infrastructure, templates and programs, the Green Crew was designed to seed other crews. Building and establishing a partnership between a League chapter and the local Scout council is an important part of the success for the Green Crew. Equally important is oversight within the Izaak Walton League chapter. Griffith Pugh believes that "The future of the Green Crew is expanding into many different Venturing crews regionally and nationally."

The Green Crew will support incoming Venturing crews by aiding in the design and development of new programs with the end result being a national chain of climate-conscious communities. Essentially, the goal of each Green Crew is to provide a secure platform to unite and support youth activists. The president of Green Crew, Camille Morton, hopes that "Green Crew would be a new horizon for each generation of youth and become accessible in every state."

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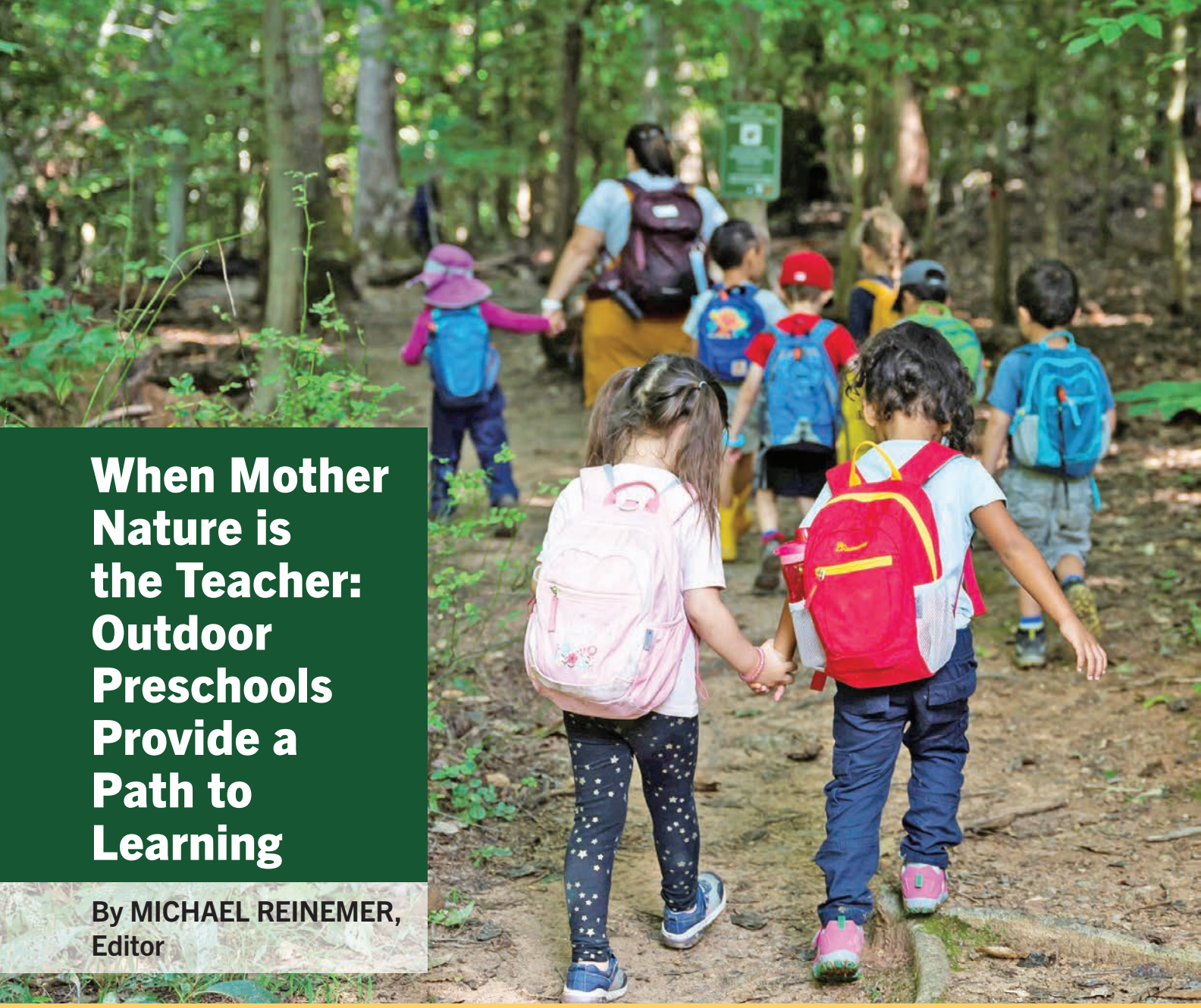
*Joseph Barisonzi is volunteer executive director of youth programming for the Minnesota Valley Chapter of the Izaak Walton League of America. He is the point of contact for Chapters interested in launching their own Green Crew. Web address for Green Crew: www.GreenCrew.club.*
*Personal email: joseph@iwlamnvalley.org*

# When Mother Nature is the Teacher: Outdoor Preschools Provide a Path to Learning

By MICHAEL REINEMER, Editor



Outdoors is the classroom, Mother Nature is the teacher at Riverbend Park Forest Preschool in Virginia.

FAIRFAX COUNTY PARK AUTHORITY

Kids these days don't spend enough time outdoors. Boomer parents have been muttering that for a generation now. A raft of reasons has accrued to explain why kids are not outside as much as they were in previous generations—concerns about safety, an astronomical amount of screen time, less access to natural areas.

Richard Louv brought this issue into focus in his popular 2005 book, *Last Child in the Woods.* He coined the term "nature-deficit disorder" to describe the detrimental impact of less time spent outdoors. That's not a medical condition, he says, but rather a summation of the "human costs of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses."

The solution, Louv argued, is more connections and physical contact with nature. A decade later, Scott D. Sampson published *How to Raise a Wild Child,* which provided ideas and tips about how kids can learn through nature, "green schools" and similar programs.

## Early outdoors

Start young.

That's good advice for many pursuits—learning music, eating healthy, staying fit. And appreciating nature. As we have known all along, being outdoors provides countless rewards.

Now, a growing number of educators and researchers report that experiences in nature also open a world of opportunities for development, growth and learning for children.

Recently, schools designed to operate outdoors have popped up throughout the U.S., particularly in preschools, which typically enroll kids in the three-to-five-years age range. The "forest school" concept has been alive and well in Europe for decades. While some programs in the U.S. are called forest schools, a broader term is outdoor schools or nature-based instruction.

**"Nature is an amazing classroom, and every day you can see something different—especially with the changing seasons."**

One school in the U.S. has a longer history. Mary Skopec, Ph.D., is executive director of the Iowa Lakeside Laboratory near Milford, Iowa. Skopec also serves as a senior scientist with

Getting a closer look at the moss at Riverbend Park Forest Preschool.

FAIRFAX COUNTY PARK AUTHORITY

**Students examine wildlife at the Iowa Lakeside Laboratory.**

IOWA LAKESIDE LAB

the Iowa Department of Natural Resources where she coordinates the IOWATER stream monitoring programs. (Skopec spoke about volunteer science at the League's annual convention in 2019.)

Skopec says, "Outdoor-based education is always the best way to learn. We have been doing this type of education since 1909 with college students and since the 1990s, with K-12 students."

The Lakeside Lab is owned by the state of Iowa and has a 147-acre campus on West Okoboji Lake, which along with natural areas connected to the Lab, serve as outdoor classrooms. Dr. Thomas Macbride and colleagues from the University of Iowa founded the Lab in 1909 for "the study of nature in nature."

"We find that students are more focused and engaged when they are outside with hands-on learning models," says Skopec. "One of my long-term goals is to quantify the effects of this education model on the learner, but we aren't quite there yet."

**"Kids learn that fun doesn't require a battery or something you buy in a store."**

While it's hard to nail down a precise cause-effect relationship, researchers have found a clear link between outdoor experiences and learning, as explained in the sidebar on page 18.

## Riverbend Park Forest School

With miles of trails along the Potomac River, covered shelters, a nature center and a long history of education programs, Riverbend Park is a logical location for an outdoor preschool. The park spans 400 acres of woodlands and is one of many parks managed by the Fairfax County Park Authority in Northern Virginia. The agency decided to establish Riverbend Park Forest Preschool, which was fully licensed and operating in January 2022.

The school has a curriculum planned by the teachers, but the central idea is to let children experience and explore the outdoors and tie learning to their discoveries and interests.

"Nature is an amazing classroom," says Kylie Starck, director of the Riverbend preschool. "Every day you can see something different—especially with the changing seasons. Things that inspire the child inspire the teachers to learn more, ask questions and build activities around their student's interests." In practice, this offers learning opportunities for the teachers and students alike.

Students, age three through five, stay for four hours and are allowed to play in ways that they enjoy—or even "crave," Starck says. "Kids learn that fun doesn't require a battery or something you buy in a store."

As an outdoor school, the children only go inside if the weather is dangerous, so rain and cold weather don't drive the learning indoors. Many outdoor schools may have a shelter area or a tarp, but no building at all.

The small class size—12 students and two teachers—means staff can help kids with different needs or learning styles to pursue individual interests. The goal is to instill confidence, competence and social-emotional development in the children.

Do the teachers ever have an "aha moment" with the students? "Every day," Starck says. She recalls one preschooler's observation about people and plants: "We work with the trees. We breathe what trees give us and they breathe what we give them."

And parents? "Our parents have said that Forest Preschool is 'magical,'" Starck says.

**"We work with trees. We breathe what trees give us and they breathe what we give them."**
**— preschooler in Virginia**

## Filling a need

For some parents, getting kids enrolled in a preschool or childcare program is akin to getting into an exclusive college. And it's easy to spend a small fortune for the privilege.

Even before the pandemic, it was a challenge to find staff to work in preschools. The nonprofit Child Care Aware says COVID caused 16,000 preschools to close.

So some educators view outdoor preschools as a way to help meet this enormous demand.

Monica Wiedel-Lubinski, M.Ed., founded and worked as a teacher at several nature-based preschool programs in Maryland for two decades before establishing the Eastern Region Association of Forest and Nature Schools, where she serves as executive director.

She cites the different pathways to learning in nature preschools identified by Frances E. Kuo, Ph.D., whose 2019 survey of the research found that "nature-based education outperforms traditional instruction."

Now, Wiedel-Lubinski is working to professionalize standards for outdoor schools, and in 2022 she testified before the Maryland legislature in favor of establishing a licensing pilot program in the state. Most licensing requirements for preschools include specifications for indoor facilities, which don't apply to the 100-percent outdoor schools.

She says families who depend on childcare scholarships can only use that benefit in licensed preschool programs. As a result, only affluent families can afford to go to an outdoor preschool. Hence, more states need to license outdoor preschools, she says.

These programs are not one-size-fits-all. Wiedel-Lubinski points to an intergenerational program based at a retirement community where preschoolers engage in outdoor learning activities with their "grandfriends." And she cites the forest preschool

at the Carrie Murray Nature Center, operated by Baltimore City Recreation and Parks, as another good model.

What about a preschool on the grounds of an Izaak Walton League chapter?

"Yes!" says Wiedel-Lubinski. She says her organization, Eastern Region Association of Forest and Nature Schools, is focused on helping organizations—whether faith congregations, nonprofits or park systems—to adopt an outdoor preschool model.

Her group works to help certify teachers and ultimately wants to convince more states to license outdoor preschools. But preschools that are not licensed should strive to meet the licensing standards anyway to explain, for instance, "here's how we are meeting early learning standards."

The League publishes a chapter manual, "Engaging Youth in the Outdoors," that offers a wealth of ideas and tips for activities designed for students from preschool to high school.

## How Nature-Based Instruction Helps Children Learn

A 2019 review of peer-reviewed research found that experiences in nature improve academic learning, personal development and respect for the natural world.

Frances E. Kuo, Ph.D., associate professor of Natural Resources and Environmental Sciences at the University of Illinois, Urbana-Champaign, was lead author of the paper in *Frontiers of Psychology,* "Do Experiences with Nature Promote Learning? Converging Evidence of a Cause-and-Effect Relationship."

Kuo's review found evidence that experiences in nature "promote learning by improving learners' attention, levels of stress, self-discipline, interest and enjoyment in learning and physical activity and fitness." In fact, her review found that "in academic contexts, nature-based education outperforms traditional instruction."

Kuo's paper outlines eight likely pathways that lead to learning benefits.

- Improved concentration and attention.
- Reduced stress.
- Better self-discipline and impulse control.
- Higher motivation, enjoyment and engagement.
- More physical activity and better fitness.
- Greater calm, less disruptive behavior resulting in a better learning environment.
- Potential to foster warmer, more cooperative relationships with other students.
- Opportunities for more creative, physical and social play.

Kuo tells *Outdoor America* that exciting results appear in the March 2023 issue of *The Journal of Environmental Psychology.* The title of the article explains findings of a large-scale study: "School greenspace is associated with enhanced benefits of academic interventions on annual reading improvement for children of color in California."

The study, led by Cornell University's Rouzbeh Rahai, Ph.D., found that the new research "highlights how nature can help bolster academic outcomes for youth who need the most support: low-income children of color."


## 10 Core Beliefs about Nature-Based Education

(from the Eastern Region Association of Forest and Nature Schools)

1. Nature connections are essential to healthy development and well-being.
2. Children deserve opportunities for daily outdoor learning and play in all kinds of weather.
3. Children as well as educators and families reap benefits of nature-based education and outdoor play.
4. All children deserve safe, frequent access to nature.
5. An educator's primary role is to facilitate learning experiences that honor children's interests, background and needs.
6. Unrestricted and unstructured outdoor play are cornerstones for nature connection, ecological identity and environmental literacy.
7. Confidence and independence are nurtured when children direct their own learning; we embrace the benefits of risk-taking and the potential of emergent, child-directed curricula.
8. Like nature, all children deserve to be treated with kindness, compassion, empathy and respect.
9. Educators need supportive networks and high-quality professional development rooted in relevant, evidence-based practices to facilitate meaningful nature-based education.
10. As informed educators, it is our responsibility to advocate for all children's rights to outdoor learning.

For more information, visit: www.erafans.wildapricot.org.

# POLICY PULSE

## Clean Water, Healthy Soil and Benefits for All Americans: Izaak Walton League Agenda for the 118th Congress

**By JARED MOTT, Conservation Director**

**We need to improve agriculture policy this year to help produce cleaner water and better nutrition for children.**

MONKEYBUSINESSIMAGES

Every two years, the Izaak Walton League reexamines its public policy priorities and prepares for a new term of Congress, which offers a clean slate for advancing our conservation agenda.

Conservation issues enjoy bipartisan support. Republicans, Democrats and Independents all agree on the fundamental need for clean air, clean water and preserving the places that provide wildlife habitat and enjoyment of outdoor recreation.

But success in achieving these priorities in Congress and with federal agencies depends on all of us.

The League's policy agenda for the 118th Congress (2023-24) covers five broad categories.

**Transform agriculture to reduce water pollution, safeguard human health, and ensure sustainable food production for future generations.**

Put soil health at the center of agriculture policy. For too long, the Farm Bill has ignored soil and its connection to human health. Healthy soils absorb water and replenish nutrients in plants far more effectively than degraded soils. Instituting policies that drive healthier soils on tens of millions of acres is imperative for securing clean water and healthier food for every American. Implementing soil health practices reduces runoff, helps grow healthier food and stores carbon in the ground instead of the atmosphere. By making the Farm Bill a soil health bill, we can reduce water pollution, grow food that improves human health and fight climate change.

Increase long-term investment in proven conservation practices and programs. To expand the impact of soil health practices to tens of millions of acres, the League will advocate for investments in the most effective conservation

programs. By prioritizing existing programs like the Conservation Stewardship Program, agriculture and wetland easements and the Conservation Reserve Program, we can put soil heath practices on the ground quickly through programs with proven conservation outcomes.

Focus conservation dollars on programs that leverage non-federal funds, like the League's State & Tribal Soil Health Grant program.

For many grant programs, each federal dollar invested is matched by as many as three dollars of state, local and non-government funds. The League wants to grow the investment in soil health practices and policies across the country, and not just within the U.S. Department of Agriculture programs. By incentivizing non-federal investments, we can double or triple the impact on the ground, meaning cleaner water and healthier food for all Americans.

### Strengthen federal rules to protect our drinking water.

Defend a strong Clean Water Act.

For over 50 years, the Clean Water Act has been a hugely successful bedrock environmental law, drastically lowering industrial pollution in our waterways and slowing the rate of wetlands loss. However, the law's strengths face constant attacks in Congress and in the federal courts. The League will continue to defend the Clean Water Act and challenge any action that seeks to weaken its protections for streams and wetlands.

Promote congressional legislation to protect human health by modernizing drinking water safety standards for nitrate.

Emerging science reveals alarming trends in the rates of some types of cancers that can be connected to nitrate in drinking water. The research suggests a link between these cancers and prolonged exposure to nitrate in drinking water at lower levels than the current standard for nitrate under the Safe Drinking Water Act. The League will press Congress to consider legislation directing the Environmental Protection Agency to assess the effects of chronic exposure to nitrate in its routine review of drinking water standards.

### Conserve and restore wildlife habitat.

Advocate for the Recovering America's Wildlife Act (RAWA).

This legislation represents the most important investment in habitat conservation and wildlife restoration since the 1930s and the Pittman-Robertson Act. RAWA would dedicate resources to keeping common wildlife common, and restoration efforts to keep imperiled species from becoming threatened or endangered. About 12,000 species in the U.S. are in need of active conservation efforts to keep populations from declining and about a third of U.S. wildlife species are at risk of becoming endangered. Current funding to implement state wildlife action plans, blueprints for restoring these at-risk species, is less than five percent of what experts say is needed to conserve the species most at risk. RAWA is the solution to filling that gap.

**The League will push for a stronger Clean Water Act and better safety standards for nitrate levels in drinking water.**

PEXELS

Revealing an evolution in power production, a Duke Energy wind farm near Casper, Wyoming looms in the distance behind a PacifiCorps' coal-fired plant scheduled to close in 2027.

MICHAEL REINEMER

Defend the North American model of wildlife management.
We will continue to defend long-standing funding for wildlife conservation and habitat restoration via excise taxes on firearms and ammunition. The League fought to pass that funding in the Pittman-Robertson Act back in 1937. However, during the last Congress, legislation was introduced that would have cut off funding for state wildlife agencies from traditional excise taxes on firearms and ammunition.

Since it was created, the Pittman-Robertson Act has provided billions of dollars for wildlife management through this "user pays" system, which is the backbone of the North American model of wildlife management.

**Put the U.S. on a path to net-zero emissions by 2050 to address the climate crisis.**

Prioritize large-scale storage and transmission of electricity generated by renewable energy sources.
Generation of electrical power by renewable resources is no longer cutting edge, but the U.S. needs to expand the grid that moves and stores all that energy. Last century's electrical grid won't suffice for the next generation of renewable energy. In addition to advocating for programs that expand our capacity to move and store renewable energy, the League will push for greater energy efficiency throughout the economy to reduce greenhouse gas emissions and lower energy costs for each and every American.

Promote land and water-based solutions that harness the power of natural systems found on public lands, farms, wetlands and oceans to sequester carbon and build climate resiliency.
Wetlands and native grasslands are two of the most incredible carbon sinks that exist on Earth. We must conserve all that remain and restore as much as we can. Besides providing cleaner drinking water and wildlife habitat, wetlands and grasslands can keep carbon from entering our atmosphere and even help pull it out once it's been released.

Agricultural programs that protect wetlands by securing easements or disincentivize plowing need to be strengthened. New legislation that leverages state and local dollars for grasslands conservation must be introduced and passed. Soil health practices can turn America's agricultural lands from carbon emitters to carbon sinks but need to be amplified in the next Farm Bill. Programs that build forest health can prevent catastrophic wildfires and improve habitat. These forests on our public lands also sequester carbon, and like wetlands and prairies, are crucial for building resiliency to a warming climate, not just for wildlife, but for people too.

**Protect the nation's iconic ecosystems.**

Advance legislation to conserve grasslands, America's most imperiled ecosystem.

Our grasslands and prairies are one of the fastest-disappearing ecosystems in the world. The loss of these natural wonders is driving declines in wildlife, especially birds, but also affects ranching and farming and America's ability to feed its population. American agriculture, especially ranchers, depend on the ability to graze on healthy grassland landscapes. The League will work to advance legislation that will help farmers, ranchers, Tribes, and other conservation partners collaboratively conserve and restore native grasslands.

Lead the effort to fully fund badly needed restoration of the Missouri River.

Due to extensive alterations that narrowed the river and eliminated many of its natural features, the Missouri River basin suffers from large-scale flooding, siltation and a massive loss of natural habitat. The Missouri River Recovery Program was created to improve the river's resiliency and benefit fish and wildlife by restoring a portion of the habitat lost along the lower Missouri River. But these improvements provide a host of other benefits to people, like enhanced outdoor recreation and stronger economies for towns along the Missouri.

Advocate for permanent protections for the Boundary Waters.

The Boundary Waters canoe area in Minnesota has benefited from the League's conservation advocacy since the 1920s. It is the most frequently visited wilderness area in the U.S. owing to its million acres of protected wilderness, 237 miles of trails and 1,200 miles of canoe and kayak routes. Sulfide mining on national forest land upstream of the Boundary Waters that would irreparably harm this unique ecosystem has been blocked for the immediate future, but the League will continue to push for federal legislation to permanently protect this incredible place by withdrawing surrounding public lands from mineral leasing.

Advance historic legislation calling for broad restoration of the Mississippi River.

Legislation creating a Mississippi River Resilience and Restoration Initiative was introduced in the previous Congress and remains an urgent priority. The bill is modeled after the hugely successful Great Lakes Restoration Initiative, and it would coordinate conservation and restoration efforts along the entire corridor of the country's biggest river system. This investment will fight climate change, improve drinking water, conserve fish and wildlife habitat and reduce the spread of invasive species.

PAUL LEPISTO

**The Izaak Walton League will continue to lead efforts to fully fund badly needed restoration of the Missouri River.**

## POLICY AGENDA AT A GLANCE

**Transform agriculture to reduce water pollution, safeguard human health and ensure sustainable food production for future generations.**

**Strengthen federal rules to protect our drinking water.**

**Conserve and restore wildlife habitat.**

**Put the U.S. on a path to net-zero emissions by 2050 to address the climate crisis.**

**Protect the nation's iconic ecosystems.**

**For details about policy and action steps to advance these goals, visit iwla.org/advocacy and subscribe to Conservation Currents at iwla.org/subscribe.**

# *The Future Is Theirs!*

**The Izaak Walton League builds a brighter future through conservation and engaging Americans in outdoor traditions.**

For generations, the League's tireless work and unprecedented success has protected our woods, waters and wildlife—and promoted outdoor recreation in every corner of the U.S.

**Through your will, retirement plan, life insurance or trust, you can help continue this legacy.**

**Plan your gift to the Izaak Walton League** and pass along a lifetime of benefits.

**Email develop@iwla.org or visit www.iwla.org/support to get started.**

**Izaak Walton League of America**
707 Conservation Lane
Gaithersburg, MD 20878

Contact us today for information about including the Izaak Walton League in your will or naming the League as the beneficiary for insurance or other investments.

# CLEAN WATER CORNER

**Salt Watch Participants and Official Partners Map**


More participants will help reduce chloride pollution.

## Salt Watch is Expanding to New Regions—and We Need Your Help!

**By SAM BRIGGS, Clean Water Program Director**

Over the six seasons of Salt Watch, we have received more than 11,000 chloride test results from dedicated volunteers and partner organizations across the country.

While we are proud of these results, the problem of road salt pollution persists. So we will continue to have growth and expansion in mind as we reach out to more communities and get new organizations involved in the program.

Just this year, we have formed several partnerships in new regions, such as the Cleveland Metroparks and the Franklin Soil and Water Conservation District in Ohio. Where we had sparse participation before, we are now seeing increased monitoring and advocacy for taking action about road salt pollution.

### To Expand Partnerships, We Need Your Help

This is where we need your help—forming new partnerships. Visit www.saltwatch.org and click "Our Partners" to view the map of existing Salt Watch partnerships.

Are there gaps in your region? Do you know of other conservation organizations, schools, scout troops and watershed organizations that may be interested? If so, connect them to the Salt Watch program! We welcome participation and advocacy for improved salting practices and better water quality.

Connecting an organization with the Salt Watch program can be as simple as sending them an email with a description of the program and link to the website. Or connecting someone with the Salt Watch staff.

Or it may involve more moving parts. For instance, the League's Elgin Chapter in Illinois hosted a program focused on the plowing and salt operations in the City of Elgin.

Improving water quality nationally truly takes a village. We are grateful for this robust network of volunteers, League chapters and partners connecting the dots all across the country.

IWLA


# JOIN THE SALT WATCH

SALT WATCH™
IZAAK WALTON LEAGUE OF AMERICA

**www.saltwatch.org**

## What is chloride pollution?

Road salt keeps us safe on roads and sidewalks, but too much can pose a threat to fish, wildlife, and human health. Water treatment plants aren't equipped to filter out extra salt, so it can end up in tap water and even corrode pipes, which may cause serious health concerns.

## Keep it Fresh (not salty) with Salt Watch

**This national community science project:**

- Provides ***free*** water testing kits to identify chloride pollution in local waterways
- Compiles volunteer data from across the country
- Educates the public on responsible salt application
- Helps volunteers advocate for smart salting

**It is easy to participate and become a clean water advocate for your community!**

## HOW TO GET STARTED

1. Request a ***free*** kit at **SaltWatch.org** or by scanning the QR code below
2. Collect chloride readings at your chosen waterways
3. Upload a photo of your test strip to our database
4. Share your findings with your community!

Pay it forward so we can reach even more people!

**Request your free kit**

**Pay it forward**

# "We Are Water" Display Enlightens and Engages the Public

**By GARY SCHWARTZ**

The **Will Dilg Chapter** centennial in 2024 will coincide with the 100-year celebration for the passage of federal legislation establishing the Upper Mississippi Game and Fish Refuge, which the League was instrumental in achieving.

Recently, the Chapter has been restoring Latch Park on Prairie Island, which is where the Will Dilg Monument was erected by the national Ikes decades ago. These grounds contain the first chapter house, a boat and fishing dock on the river.

Chapter President Barry Drazkowski, who is familiar with the **Izaak Walton League of America Endowment,** applied for funds to create a traveling display called "We Are Water." The funds help the Chapter explain League programs such as Save Our Streams (SOS), Salt Watch, the Upper Mississippi River Initiative and local river conservation programs.

The display was first presented to the public at a farmer's market during the summer of 2022. Parents and children were excited about the hands-on features, like identifying macroinvertebrates. They appreciated the handouts that helped children understand how the Mississippi River affects their lives.


**The Will Dilg Chapter provides a hands-on introduction to the League's Save Our Streams program at a farmers' market in Minnesota. Staffing the display: Chapter President Barry Drazkowski (left) and SOS Coordinator Amy Cordry.**

WILL DILG CHAPTER

Members of the Winona Boat Club marveled at the depth of the information and offered to partner with the Winona Ikes to address the issues of sedimentation, fishing and wildlife habitat. The Chapter signed up new members. It was an impressive start, but of course the work of conserving the Mississippi is a long process.

*Gary Schwartz is a national director of the Izaak Walton League and a director of the Endowment. He is a past president of the Minnesota Division and currently secretary of Owatonna Chapter (Minnesota).*

## How to Apply for an Endowment Grant

**The Izaak Walton League of America Endowment offers grants up to several thousand dollars to chapters that advance local programs to conserve our nation's natural resources.**

**Grant applications are due annually by May 1 and funds are awarded at the national convention in July. If your chapter has a project that needs additional funding, visit the Endowment website at http://iwla-endowment.org.**

NATIONAL
★AWARDS★
2023

# A good Ike is easy to find.

**But only you can help us find the best of the best.**

Make sure your fellow Ikes get the recognition they deserve, for:

- Defending clean water
- Organizing a conservation project
- Engaging youth in the outdoors
- Advancing the shooting sports, or
- Writing informative newsletters about the League's work

**Nominate an outstanding member, chapter, division or ally for an Izaak Walton League national award.**

## Nominations are due June 1, 2023.

## Visit www.iwla.org/awards

PIXABAY

# SOIL MATTERS

## Protecting America's Wetlands: 2023 Farm Bill Must Be a Wetlands Bill

**By DUANE HOVORKA, Agriculture Program Director**

Pintail drake takes flight from a seasonal wetland in South Dakota.

USFWS

America's wetlands provide huge benefits for all of us, but they face a difficult future. Drafting and passing the 2023 Farm Bill in Congress is a big opportunity to restore and protect wetlands that filter polluted runoff, recharge groundwater and provide habitat for fish and wildlife. Wetlands also store large amounts of carbon, reduce erosion along our coastline and protect homes and businesses from storms and floods.

The League's priorities for Congress in 2023 include an increase in funds for federal programs focused on wetland conservation and more consistent enforcement of the federal Swampbuster law, which is designed to protect wetlands on farms. The changes are critical if we are to protect what is left of our vital wetlands.

### Centuries of draining and destroying

Since colonial times, three centuries of efforts to fill, drain and destroy wetlands have cost the lower 48 states over half of these lands—more than 100 million acres of wetlands have been lost. Also lost: habitat for nesting and migratory waterfowl, spawning habitat for fish and the capacity to store floodwaters and recharge groundwater.

Destroying those wetlands also released into the atmosphere billions of tons of climate-warming carbon that had been stored in wetland soils.

During the 20th century federal, state and local governments actively aided and funded the destruction of wetlands—often over strong opposition from League members who understood the value of swamps. By the 1970s, about 450,000 acres of wetlands a year were being destroyed.

The League and others had long pressed Congress for action, and finally in 1977 Congress amended the Clean Water Act to create a program to regulate dredging, draining and filling of wetlands and other surface waters. Although the loss of wetlands has slowed since the 1970s, about 90,000 acres of vital wetlands are being drained and filled every year.

### Steps toward wetlands conservation

In the 1985 Farm Bill, Congress enacted Swampbuster, a provision that requires farmers who accept farm commodity program benefits, crop insurance subsidies, federal farm loans and conservation payments to agree not to drain or fill wetlands. Today Swampbuster protects at least 78 million acres—or three-quarters of the remaining wetlands in the lower 48 states.

Swampbuster helped slow the loss of wetlands, but

conservationists recognized we needed to do more. In 1989, Congress enacted the North American Wetlands Conservation Act (NAWCA), which created a conservation strategy for the continent and provided funding for public-private partnerships to restore and acquire wetlands.

Congress built on this success in the 1990 Farm Bill, creating the Wetlands Reserve Program to fund the restoration and long-term protection of wetlands through conservation easements. Since its creation, the Wetlands Reserve Program and its successor, the Agricultural Conservation Easement Program (ACEP), have restored and provided permanent easements on nearly three million acres of wetlands.

When Congress passed the 2018 Farm Bill, it provided $450 million per year through ACEP to restore and protect wetlands and grasslands and to protect farmland from development. Since 2018, the demand from farmers and ranchers for ACEP and other U.S. Department of Agriculture (USDA) conservation programs has far exceeded the funding Congress made available.

**The League's agenda for the Farm Bill addresses our specific concern about threats to wetlands and opportunities to save them.**

## A breakthrough in 2022

The League and others pressed Congress to increase that funding, and in August of 2022, Congress responded with the largest commitment of new USDA conservation funds in history—$19.5 billion to help farmers and ranchers adopt climate-friendly practices.

Of that, $1.4 billion was for ACEP to protect and restore wetlands and grasslands that hold vast amounts of carbon, reduce flooding, recharge groundwater and provide habitat for fish and wildlife.

## 2023 Farm Bill and wetland conservation

This year, Congress will tackle the twice-per-decade responsibility of passing a Farm Bill that will influence the way that 900 million acres of private agricultural lands are managed. The bill will have lasting implications for our vanishing wetlands.

The Izaak Walton League agenda for the Farm Bill addresses our specific concern about threats to wetlands and opportunities to save them. Several key parts of that agenda follow.

***League Agenda:*** *A top priority is to protect the $19.5 billion Congress provided for farm and ranch conservation. The funds are critical if we are to restore and protect wetlands and prairies and help farmers put in place soil health and other conservation practices on tens of millions of acres of farm and ranch land over the next decade.*

Congress reserved the new funds for conservation projects that will reduce, capture, avoid or store carbon dioxide, methane, or nitrous oxide emissions—all greenhouse gases linked to climate change.

Wetlands hold several times as much soil carbon per acre as grasslands, and often 10 or 20 times as much as cropland, but much of that carbon is released when wetlands are destroyed. Yet USDA did not include wetland restoration on its list of "climate-smart" activities in 2022. After protests from the League and other wetland advocates, USDA added wetland restoration to the list of "climate-smart" activities for 2023 but initially it appears USDA is not putting a priority on funding wetland work.

***League Agenda:*** *In a December 2022 letter to USDA and comments filed jointly with other wetland and waterfowl groups, the League called on USDA to ensure some of the $19.5 billion from Congress would be used to restore and protect wetlands that store large amounts of soil carbon.*

It has been 30 years since the first wetlands were enrolled in the Wetlands Reserve Program, and some of those wetlands have silted in or been overgrown and are ripe for restoration. As more and more of these wetlands require renovation to restore their full wetland functions, Congress needs to find funding sources to restore and protect these important assets.

***League Agenda:*** *Congress should give USDA more flexibility to use farm conservation dollars to restore*

*wetlands that were protected by conservation easements in the past but now need renovation.*

While Swampbuster protection for farmed wetlands has largely been a success story, the League and other conservation organizations have criticized USDA for its inconsistent enforcement of Swampbuster, and for leaving unprotected many seasonal wetlands that don't hold water throughout the year.

***League Agenda:*** *By creating an independent USDA Office of Compliance in the next Farm Bill, Congress could ensure more consistent application of Swampbuster based on the best available science.*

A restored wetland on an Iowa cornfield.

## Reversing wetland losses

In a case before the Supreme Court, *Sackett v. EPA,* the plaintiffs (Sacketts) have asked the Court to adopt a new, extremely restrictive test for determining which waters are protected under federal law.

As the League has told the Court in an amicus brief, adopting this novel, restrictive approach would cause the loss of federal protections on about half of the remaining natural wetlands in the nation. That would put at risk the huge water, wildlife and climate benefits these wetlands deliver. Adopting that restrictive approach would make the Farm Bill's Swampbuster protections and wetland conservation and protection program even more critical.

**USDA has been inconsistent in enforcement of Swampbuster program, leaving many seasonal wetlands unprotected.**

In 1989, President George H.W. Bush issued a national goal of achieving no net loss of wetlands. This "no net loss" goal has been re-issued by every president, Republican or Democrat, through President Obama. More than three decades later, our nation continues to struggle to achieve this goal.

But 2023 could be the turning point where we make the goal of preserving wetlands a reality.

### WHAT YOU CAN DO

**Please ask Congress to provide better funding and action for conservation and wetland protections in the 2023 Farm Bill.**

TIM MCCABE USDA

# Izaak Walton League Weighs In

## *Washington Post* Publishes League Response to Deer Hunting Column

*A* Washington Post *opinion piece about the environmental impact of large deer populations triggered a response from the Izaak Walton League, which the* Post *published on February 25. The League's letter from Executive Director Scott Kovarovics follows:*

Dana Milbank made good points in his Feb. 19 Sunday Opinion column, "I bought a gun. And I intend to use it.," about the need to address the damage caused by deer where their population exceeds the ability of the land to sustain them.

Too many deer per acre stunt the growth and variety of trees in our forests, reduce biodiversity broadly and degrade ecosystems. Predators that kept deer populations in check are long gone in most parts of the country. Conservationist Aldo Leopold described this problem in his essay "Thinking Like a Mountain" nearly eight decades ago. That leaves humans to do the work of managing deer and other wildlife. We seek a balance that achieves thriving populations without exceeding the capacity of the habitat. As Mr. Milbank noted, "none of this is the deer's fault."

The Izaak Walton League of America, which has been protecting fish, wildlife and their habitats since 1922, takes issue with some of the ideas Mr. Milbank proposes, such as market hunting. A hunting model based on commerce and profit margins could have disastrous impacts on wildlife. Also, millions of lawful gun owners enjoy shooting sports that demand discipline, precision and strict safety procedures, as Mr. Milbank surely knows.


**Large, concentrated populations of white-tailed deer present a host of problems in many regions of the U.S.**

USFWS

As we better understand nature, the food web and value of hunting—with all their nuances that go beyond "Bambi" and other cartoons—we can better recognize our own connections and responsibilities to the natural world that sustains us.

*– Scott Kovarovics, Executive Director of the Izaak Walton League of America*

**For decades, we have known that drinking water with elevated nitrate contributes to cancer and other diseases.**

ANDREA PIACQUADIO, PEXEL

# A Growing Problem: Nitrate in Our Water

**By HEATHER WILSON, Save Our Streams Coordinator**

It's hard to believe. We know that nitrogen running off agricultural lands, leaking from septic systems and draining out of wastewater treatment plants delivers excess nitrate to waterways. The damaging effects of this pollutant on human health and the environment are well-documented and understood.

Nitrate in drinking water contributes to cancer and infant mortality. Nitrogen pollution causes a massive dead zone in the Gulf of Mexico and billions of dollars in economic harm.

Yet, every year we apply millions of tons of nitrogen to land across the U.S.

Solutions are available. So how can we implement them on a national scale? And just how widespread is the pollution?

To help tackle these two critical questions, the Izaak Walton League has launched a volunteer water monitoring program called Nitrate Watch. First, some background about this growing problem.

## What is nitrate, where does it come from?

Nitrate ($NO_3^-$) is a naturally occurring compound made up of nitrogen and oxygen. Nitrogen is an essential nutrient for plants—it is found in enzymes and proteins and is a key component of chlorophyll molecules.

Striving to produce greater yields and grow food in soil lacking natural nutrients, modern agriculture applies more nitrogen than soil can absorb. Manure and sewage also add nitrogen to the landscape.

As this nutrient moves through the environment,

it interacts with nitrifying bacteria and becomes nitrate. Nitrate is soluble in water, which means that it is easily carried off the land by rainwater, irrigation systems or melting snow. Through surface runoff or groundwater saturation, nitrate frequently makes its way to streams, lakes and our sources of drinking water.

This is where problems arise.

**Colorectal cancer, thyroid disease, and neural tube birth defects (like spina bifida and anencephaly) were all linked to drinking water contaminated with nitrate.**

## Human harms

For decades, we have known that consuming water with elevated nitrate levels is harmful to human health. Ingesting water with an abundance of nitrate can interfere with our blood's ability to transport oxygen. In infants younger than six months, that can lead to a condition called methemoglobinemia (or "blue baby syndrome"), which can cause the skin to turn blueish-gray and may lead to serious illness or death.

In 1992, in an attempt to combat blue baby syndrome, the U.S. Environmental Protection Agency placed a limit on the amount of nitrate allowable in drinking water. This limit was set at 10 parts per million (ppm), which is equivalent to 10 milligrams of nitrate per liter of water (mg/L). This regulatory standard has not been updated since it was set in 1992—more than a generation ago.

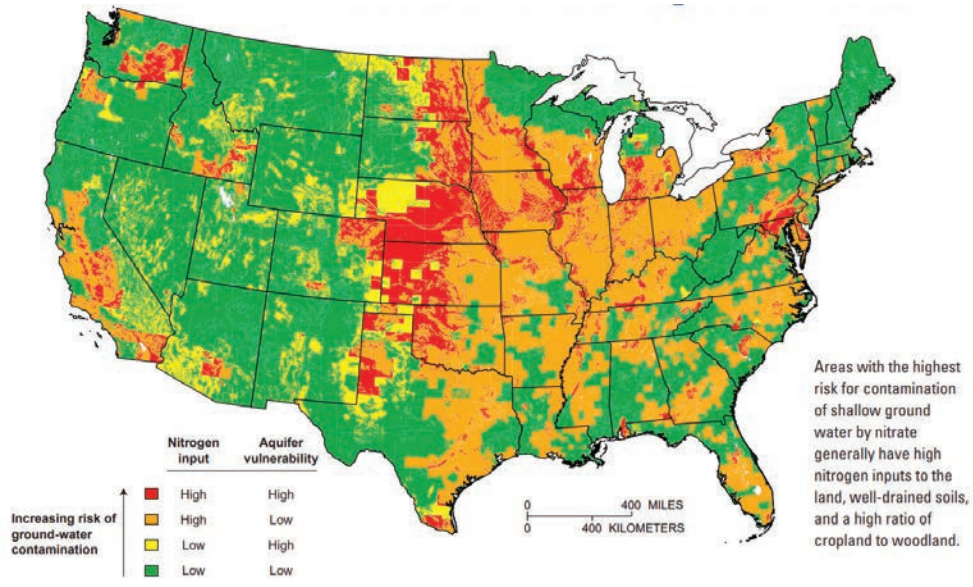
Unfortunately, blue baby syndrome is not the only health impact associated with nitrate consumption. Colorectal cancer, thyroid disease, and neural tube birth defects (like spina bifida and anencephaly, a serious birth defect in which a baby is born without parts of the brain and skull) are all linked to drinking water contaminated with nitrate. This is the conclusion of a 2018 analysis of 30 studies on the effects of nitrate consumption on human health published in the *International Journal of Environmental Research and Public Health.*

The authors of that analysis state that "many studies observed increased risk with ingestion of water nitrate levels that were below regulatory limits," especially with prolonged exposure to nitrate in drinking water. These findings raise serious questions about whether the 30-year-old EPA standard adequately protects public health. This article notes the need for additional studies to further our understanding of the health effects of nitrate consumption.

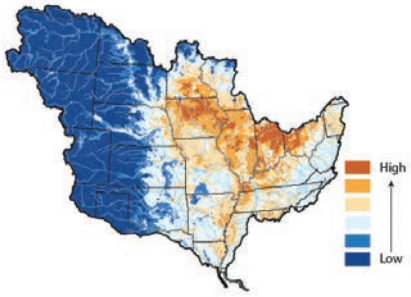
## Well water?

The type of water system used to supply a person's drinking water can influence how much nitrate they are exposed to. Public drinking water systems draw from surface water, groundwater, or both, and are subject to regulatory limits set forth by the EPA and local government agencies. This means that municipalities and drinking water utilities must filter out any nitrate above 10 mg/L.

Private wells draw exclusively from groundwater sources and are not subject to regulations for contaminants, including nitrate. A 2018 study of water use in the United States by the US Geological Survey



**Areas with the highest nitrogen yields transported to the Gulf of Mexico.**




**The Mississippi river watershed drains states where high amounts of nitrogen are applied to farms.**

reported that approximately 42.5 million Americans (13 percent of the total population) had self-supplied water at their homes. Over 98 percent of these people obtained their water from a private groundwater well.

Communities at greatest risk of exposure are those located in agricultural regions that obtain their water from shallow wells. Water in these areas often has increased nitrate pollution resulting from fertilizer applied to farmlands and waste from animal feeding operations.

The Iowa Rural Drinking Water Survey studied the risk of exposure to nitrate in drinking water in rural Iowa. This study, conducted by Iowa State University's Center for Agricultural and Rural Development in 2022, surveyed over 8,000 rural homes and found that one third of surveyed households are at high risk of nitrate exposure due to lack of testing, filtering or bottled water use.

The study also asked rural Iowans for their perception of water quality issues in their community and statewide. About 40 percent of respondents indicated that they were concerned about the presence of nitrate in drinking water, but fewer than 25 percent believed that it was an issue in their local area. This relatively low concern for local water quality in areas vulnerable to dangerous nitrate levels means that better awareness about this issue is important.

## Environmental harms

Plants need nitrogen to grow. But too much of a good thing can be a very bad thing.

When waterways receive an influx of nitrate pollution via runoff or groundwater saturation, a cascade of harmful ecological effects is set in motion. First, the increased available nitrogen is taken up by aquatic plants, especially algae. Algae grow very quickly when excess nutrients are available, but each alga is relatively short-lived. Ultimately, the result is a large amount of dead and decaying algae, which block out sunlight lower in the water column and increase the water temperature.

The process of decomposition consumes oxygen, resulting in hypoxic areas (areas low in dissolved oxygen). Under hypoxic conditions, many aquatic species, including fish and macroinvertebrates, find it hard to survive. The result—fish kills and dead zones.

Where the Mississippi River empties into the Gulf of Mexico, off the coast of Louisiana, provides the best-known example of a dead zone for aquatic life. Corn belt states in the Mississippi watershed like Illinois, Iowa and Indiana bear responsibility for a large portion of the nutrient pollution that has contributed to this dead zone (see map).

## Algal blooms

In some cases, algal blooms can harbor toxic cyanobacteria, making them even more harmful to humans and the environment. Some types of cyanobacteria, also called "blue-green algae," thrive under the same nutrient-enriched conditions that create algae blooms. These cyanobacteria create compounds called "cyanotoxins" which can be dangerous to humans or animals that come into contact with them.

Probably the most familiar type of cyanotoxins are the microcystins, which pose a serious threat to human and animal health worldwide. Drinking,

touching or even inhaling water containing microcystins can cause severe health problems. Symptoms of microcystin poisoning include weakness, stomach pains, nausea, labored breathing, muscle tremors, vomiting and diarrhea. Exposure to microcystins can lead to coma and even death. When beaches and waterways are closed to swimming in the summer, microcystin from blue-green algae is often to blame.

## Economic harms

Beyond the obvious value of human health and environmental quality, what is the cost of nitrate pollution?

Nitrate pollution has far-reaching effects on the economy, impacting a wide range of industries. Algal blooms are unsightly and potentially dangerous, but they can also drag down recreational spending and property values. In Iowa, this impact has been quantified. A 2018 Iowa State study found that reducing nitrate pollution by 45 percent would deliver $30 million annually in recreational benefits to Iowans.

Algae blooms harboring toxic cyanobacteria can contaminate fish and shellfish, harming that sector. According to the EPA, the fishing industry loses tens of millions of dollars of revenue every year due to nutrient pollution.

It is also worth considering the medical costs of nitrate pollution. A case study published in 2020 found that the people of Wisconsin collectively pay between $23 million and $80 million each year in medical expenses associated with drinking water contaminated with nitrate. Nationally, cancer cases attributable to nitrate pollution carry an economic impact of $250 million to $1.5 billion in medical costs alone, with a potential of $1.3 to $6.5 billion in lost productivity, according to a 2019 study by researchers at the Environmental Working Group and Duke University.

## Removing nitrate from drinking water

Perhaps the most direct economic impact of nitrate pollution is the cost of removing this pollutant from drinking water. When high nitrate levels are present in public drinking water sources, local and state agencies must remove the excess nitrate to meet the 10 mg/L drinking water standard.

Bear in mind, nitrate is not removed as part of the typical water treatment process. Specialized nitrate removal infrastructure is required, which makes use of ion-exchange or reverse osmosis technology. These facilities are expensive to build and operate. The nitrate removal facility in Des Moines, Iowa (the largest of its kind in the world when it was built in 1992) cost $4.1 million to construct and costs up to $10,000 a day to operate. During the summer of 2013, when nitrate levels in Des Moines' drinking water sources were particularly high, Des Moines Water Works spent over $500,000 to treat the water. These costs are then passed on to rate payers who use the water.

**Preventing movement of nitrates from crops to streams is the focus of ARS soil microbiologist Tom Moorman, here examining a farmer's subsurface drain pipe.**

USDA ARS

**Algal blooms can harbor toxic cyanobacteria, making them even more harmful to humans and the environment.**

The burden of water treatment costs varies widely based on the size of the community served. For instance, rural communities that are in close proximity to agricultural nitrate sources and have a smaller population than their urban counterparts will spend much more per person to remove nitrate from their drinking water. Illustrating this difference, a 2021 analysis by the Union of Concerned Scientists found that rural Iowans may pay up to $1,200 per person per year for nitrate removal, while urban Iowans pay just $2 per person per year.

## Solutions

How do we begin to correct the pervasive problem of nitrate pollution?

Many solutions that address nutrient pollution focus more on soil than they do water. Soil health and water quality are tightly linked. Healthy soil contains a vibrant underground ecosystem of bacteria, fungi and microbes that help plants to thrive. These organic components create pores in the soil, allowing it to soak up water like a sponge. Soil life suffers when it is plowed, sprayed with herbicides, insecticides and fungicides, fed a steady diet of chemical fertilizer, or limited to just one or two crops. When soil health is threatened, water quality is too.

Industrial agricultural practices deplete soil of its organic matter, decrease its water-holding capacity, and necessitate the input of synthetic fertilizers to support plant growth. Regenerative agricultural practices, on the other hand, restore soil organic matter, increase porosity, and reduce the amount of fertilizer needed. These practices include:

- Use of cover crops
- Extended crop rotation
- Integrating livestock
- Integrated Pest Management (IPM)
- Reduced tillage or no-till
- Installation of prairie strips and buffers
- Protection of wetlands.

## The Izaak Walton League's Approach

Soil health and water quality are two of the Izaak Walton League's primary priorities. This year, we will be working on Farm Bill conservation programs, America's largest source of funding for private lands conservation (see Soil Matters, page 30). At the state

### COVER CROPS

Cover crops nourish microbes, soak up nutrients, and hold the soil in place when it would otherwise be bare after crops are harvested. Farmers who use cover crops enjoy improved soil health, decreased soil compaction and erosion, and up to 50% reduction in nitrogen runoff.

### EXTENDED CROP ROTATION

Planting additional crops beyond just one or two helps to feed a diversity of soil fungi and bacteria and break up pest and disease cycles. Like cover crops, extended rotation retains soil and nutrients on the field, all while increasing yields and making a profit.

### INTEGRATING LIVESTOCK

Rotational grazing of cattle, sheep, and other livestock improves grasslands, reducing erosion and providing habitat for wildlife. Livestock can also graze cover crops, supercharging soil biology and reducing the need for fertilizer.

### INTEGRATED PEST MANAGEMENT

IPM is an environmentally sensitive approach to pest management that minimizes the use of pesticides, herbicides, and fungicides, all of which are harmful to soil life. IPM employs methods like pest scouting, spot spraying, biological controls, and non-chemical methods to better deal with pests and disease.

### LOW OR NO TILL

Tilling can destroy beneficial fungi and increase erosion. "No-till" and conservation tillage leave plant material on the surface to protect the soil from erosion, improve water retention, and feed soil microbes.

### PRAIRIE STRIPS & BUFFERS

Taking a small amount of land out of production can have huge benefits for farmers and the environment. Prairie strips in fields and grass buffers along streams drastically reduce soil erosion and nutrient loss, lessening nitrate runoff by as much as 84%. They also provide valuable habitat for wildlife.

### WETLANDS

Wetlands are incredibly effective at preventing nutrient runoff, acting as natural filters for nitrate and phosphorus. They also reduce flooding and erosion, provide wildlife habitat, and create outdoor recreation opportunities.


**By monitoring surface water and drinking water, Nitrate Watch volunteers can help to pinpoint pollution, collect vital data and raise awareness.**

level, we help legislators understand the benefits of soil health and press for state funding and programs that help farmers and ranchers adopt soil health practices. At the local level, we support the work of conservation districts, who educate and support farmers on conservation practices.

"Helping farmers, ranchers, and farmland owners understand and adopt soil health strategies will protect our water, restore the health of our soils, and make farms more resilient and profitable," said Duane Hovorka, the League's Agriculture Program Director.

## Nitrate Watch

If you are in search of a hands-on approach to combatting nutrient pollution, we are excited to introduce this program.

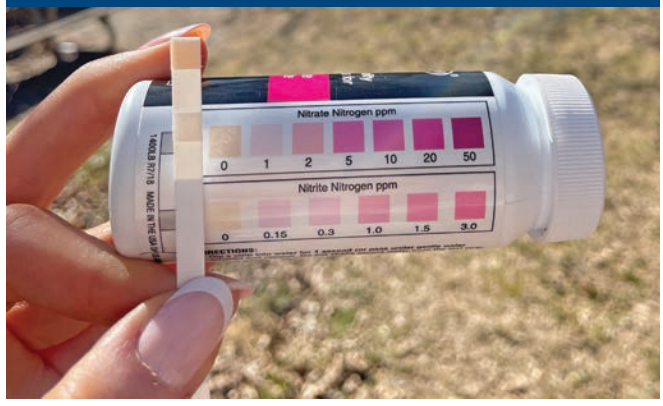
Nitrate Watch invites volunteers from across the country to take an active part in monitoring nitrate pollution. Volunteers request test kits, including nitrate test strips and instructions, and take the Nitrate Watch pledge. Participants can monitor nitrate levels in surface water (including streams, rivers, lakes and more) as well as drinking water (including public drinking water systems and private wells).

Data from Nitrate Watch volunteers is shared on the Clean Water Hub, where it is compiled in interactive, color-coded maps. This data is publicly accessible and can be used by anyone who is interested in communicating about nitrate pollution with their community.

By monitoring and making this nitrate data publicly available, nitrate pollution hotspots are highlighted in areas that aren't currently being consistently monitored (such as smaller streams and tributaries and private wells). Providing evidence of this pollution problem will raise awareness at the local level where individuals may have ignored the problem or assumed it was not an issue in their neighborhood.

Izaak Walton League of America members, staff and volunteers will also use this data and lessons learned to advocate for better regenerative agriculture practices and for modernizing drinking water standards to ensure they effectively protect human health.

**Nitrate Watch test strips are easy to use and display results 30 seconds after dipping the test strip into water.**




SAMANTHA BRIGGS, KATIE BOWMAN

**Visit www.nitratewatch.org to get involved and sign up for the Nitrate Watch newsletter.**

# Repairing Waterways, Welcoming Wildlife with Riparian Buffers

By Lisa Ballard

Wood ducks and other waterfowl and wildlife need healthy shorelines like this one near Roberts, Montana.

LISA BALLARD, MICHAEL REINEMER

When it comes to clean water and wildlife habitat, the importance of riparian buffers—the strip of land next to a waterway—cannot be overstated.

The need to conserve these areas has become critically important owing to their ability to filter out excess nutrients, particularly nitrogen, animal waste and pesticides, which help to keep these and other pollutants out of our lakes and rivers.

"Buffer is an important word," says Teddi Stark, Watershed Forestry Program Manager for the Pennsylvania Department of Conservation and Natural Resources.

"It really is just that, a buffer against nutrient pollution from agricultural operations, lawns and other human activity from washing into the water. Stormwater carries pollutants downhill to water—but a riparian buffer stops it."

**Riparian buffers can remove anywhere from 12 percent to 100 percent of excess nitrogen in surface water.**

## Buffer characteristics

According to Stark, this protective interface should be at least 50 feet wide, though 35 feet can provide adequate benefits. A riparian buffer might need to be much wider depending on how steep the slope is, the makeup of the soil, flood patterns, how the nearby land is being used and what the buffer is filtering.

Take nitrogen, which washes into our waterways, spurs harmful algal blooms and produces dangerous nitrate in drinking water (read about those dangers on page 34). According to the Environmental Protection Agency (EPA), riparian

buffers can remove anywhere from 12 percent to 100 percent of excess nitrogen in surface water, depending on the width and vegetative cover of the buffer.

While a wider buffer offers more protection for a waterway, it's not an exact correlation. A sparsely vegetated, poorly drained or gravelly riparian buffer that is three times wider than a buffer with large amounts of organic matter might only be a third as effective at filtering out excess nitrogen.

**Conserving existing riparian buffers and restoring others, we protect our waterways, which will save time and money and avoid potential hardship in the future.**

### A travel zone and nursery for wildlife

Another consideration is wildlife. A riparian area used as a wildlife corridor also needs to be broad, the wider the better. The Indiana Division of Fish and Wildlife recommends riparian areas on either side of a river or stream to be at least 50 to 100 feet across in order to provide food, nesting opportunities, protective cover and migratory lanes. Whether used by large animals like deer or smaller animals like squirrels, reptiles or birds, a healthy and wide riparian zone allows their young to mature and disperse safely to new territories.

Bird species that depend on waterside habitat to nest, feed and raise their young—such as bald eagles, osprey, herons, wood ducks and mergansers—take advantage of riparian zones. These land-water interfaces are also vital for migrating songbirds, providing places to rest, eat and rehydrate on their seasonal journeys north and south.

Fish as well as terrestrial wildlife also need shade, which is often found only in riparian areas, particularly in regions of the country that are primarily prairie or farmlands.

Shade can improve water quality too. "Algal blooms can indicate a riparian buffer might not be healthy… because there's too much light or it's too hot, so the ecosystem is not processing properly," says Stark.

### Buffers need native plants

Riparian buffers consist of vegetation that requires wet soil and ideally a combination of native trees, shrubs and other plants. Stark emphasizes that everything growing in the buffer should be native to the area because the root systems of those plants have evolved to be dense enough to prevent erosion, to truly slow down and absorb pollutants and to capture excess sediment and other matter that can muck up a stream. Plus, they provide needed leaf litter in appropriate amounts.

**Brian Connely, president of the Charles E. Piersall Chapter of the League, describes the Chapter's work to restore the banks of the North Platte River in Casper, Wyoming.**


Encouraging regrowth in popular places like the Potomac River sometimes requires discouraging foot traffic.

## Reaping The Benefits of a Riparian Buffer

From a conservation point of view, riparian buffers offer these important benefits:

- Filtering excess nutrients, pesticides and animal waste, and thus preventing these pollutants from entering waterways and our drinking water.
- Stabilizing banks and shorelines, reducing erosion and undercutting of riverbanks.
- Capturing sediments and pollutants from runoff.
- Providing critical shade, shelter and food for aquatic and terrestrial wildlife.
- Providing migration corridors for wildlife.
- Mitigating flood damage downstream by absorbing runoff.
- Improving recreational opportunities by keeping fish habitat healthier and by providing better wildlife watching.
- Diversifying income for landowners. By planting natives that produce fruit or nuts—like pawpaw, persimmon, elderberry or hazelnut—growers can offer a hard-to-find, local produce.

### Ikes Make it Happen

In 2013, the League's **Franklin County Chapter** in Pennsylvania decided to return an immaculately mowed quarter-mile stretch of riverbank along Conococheague Creek to a riparian buffer.

The 25-acre property, owned by the League chapter, is open to the public, attracting anglers, birders and Scouts, who sometimes camp there. There's also a playground. Part of the property is bounded by an old raceway parallel to the stream, creating a 300-foot-wide, island-like tract. Their goal was to turn all of the land between the creek and the raceway, or about a third of the property, into a riparian buffer.

"We stopped mowing and started small," recalls Mike Kusko, a chapter member and former forester at nearby Michaux State Forest. Kusko led the project and helped with much of the planting, which included American sycamore, swamp white oak, spicebush, buttonbush and elderberries.

"The elderberries grew fast and now bear fruit. When the fruit is available, the songbirds really dive in," says Kusko. "It's going to take more time for acorns. Trees take longer to mature."

The League chapter partnered with the Franklin County Conservation district, who helped them access an initial $4,000, from a grant that the Pennsylvania Department of Conservation and Natural Resources (PA DNR) had received from the National Fish and Wildlife Foundation's Chesapeake Bay Stewardship Program. The local Ikes used the money to purchase and plant the first tree and shrub seedlings, enough to cover one acre along the creek.

Subsequent grants from the PA DNR, totaling another $9,200, supported two more plantings over another 2.3 acres. The chapter also found other funding sources, including $10,000 from the Trees for Tracks program even though the property does not abut a railroad right-of-way. Over the last decade, the chapter has planted about 600 trees and shrubs, a little each year that have added up to a huge change for the good.

"The ducks are back," recalls Tom Cutchall, chapter president. "There are more of them now. Songbirds, too."

And the water quality is clearly better. "The creek is really holding fish. There's been an obvious decrease in runoff. It's definitely made a difference."

In a similar effort, the Charles E. Piersall Chapter in Casper, Wyoming, has been engaged in a large-scale effort to restore the riparian buffer of the North Platte River, which is an important trout fishery.

That ambitious effort has involved removing invasive Russian olive trees, replacing them with willows, cottonwoods and chokecherries, and restoring more than three acres of wetlands along the river.

MICHAEL REINEMER

"Native plants are the basis of the food web and a healthy ecosystem," says Stark. "They naturally exist there and have root systems that filter and stabilize banks and shorelines. When native leaves fall into a stream, they become a food source for insects at the bottom of the food web."

"We've learned that insects don't eat nonnative leaves or other nonnative plant tissues. A healthy insect population is a critical component of sustaining all wildlife and plant life, both on land and in the water." Nearly all terrestrial birds, for example, depend on insects to feed their young.

**By letting manicured riverbanks become wild again, the water below them is soon cleaner, and wildlife returns, often within a couple of years.**

### Bugs need the buffers too

Insects use riparian buffers like other types of wildlife—for nesting, foraging for food and shelter. What's more, some insect species, such as dragonflies, stoneflies and mayflies, begin life in the water then depend on the riparian zone to complete their lifecycle. The leaf litter from the riparian zone that falls into the water supplies nutrients for algae (the good kind), which these bugs eat. Then, fish eat the bugs. In other words, the riparian zone, though not underwater, supports the aquatic food web.

Lately, pollinators, particularly bees, have spotlighted the need to repair riparian zones. According to EPA, one in every four bites of food we eat depends on bees for pollination.

While other pollinators, including butterflies, moths, bats and birds also sustain most plant ecosystems on our planet, U.S. farmers depend on bees for over $15 billion in crops each year. Yet over the past three decades, the number of bees (and other pollinators) has declined by staggering amounts due to viruses, fungal infections, exposure to pesticides and other chemicals, climate change, and loss of habitat. According to a study by the University of Maryland, in 2016 alone, beekeepers lost 44 percent of their colonies—a crisis, indeed, but riparian areas have emerged as part of the solution.

The well-known European honeybee, maintained in hives by beekeepers, gets most of the attention and credit for pollination. But there are about 4,000 bee species native to North America, and many of them are extremely effective pollinators.

**Native plants and trees along streambanks also help to prevent or reduce runoff from agricultural lands.**

USGS

They too depend on appropriate habitat and native plants, and they deserve the same protections that honeybees need.

In 2021, a study published in *Restoration Ecology* pointed to the potential of riparian zones in successfully sustaining bee populations if the right mix of shrubs and flowering forbs is available. Often the woody plants required by pollinators for food and shade are only found in these vital riparian zones. Our ecosystems need all types of native pollinators to remain vibrant, and riparian buffers serve a key role in sustaining those populations.

### Bringing back buffers

On the bright side, we can help restore riparian buffers. By planting native trees and shrubs and allowing native ground covers to return to the side of a lake or stream, we can bring back healthy riparian areas.

Though it takes a couple of decades for trees to grow big enough to produce an effective canopy shade and mast (food for wildlife), their root systems quickly develop and have a positive impact almost immediately, catching excess nitrogen and stabilizing soil.

By letting manicured riverbanks become wild again, the water below them is soon cleaner, and wildlife returns, often within a couple of years. People are happier, too, with cleaner water to drink, more fish to catch and more wildlife numbers and diversity to enjoy.

"It's much easier to keep clean water clean than to treat polluted water," Stark reminds us. "Healthy riparian areas are a natural way to have clean water."

By conserving existing riparian buffers and restoring others, we protect our waterways, which will save time and money, and avoid potential hardship in the future. So, let's start planting!

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*Lisa Ballard is a League member from Red Lodge, Montana, a champion skier and a long-time contributor to* Outdoor America. *An award-winning writer and photographer, she is dedicated to getting people of all ages outdoors. www.LisaBallardOutdoors.com.*

## HOW TO REPAIR A RIPARIAN AREA

**1. Choose a location.** If you don't own property along a waterway, volunteer to work on riparian areas that are on public land, such as parks or beside a boat launch.

**2. Go wild.** As a culture, we like clean landscapes, that is, mowed to the water's edge. But healthy streams have wild edges. While small swaths of a riverbank can be mowed around a bench or a boat ramp without a detrimental effect, allow the rest of the riparian area to return to its native, wild state.

**3. Consider how water flows.** When planning how to restore a riparian area, consider how water flows into that waterbody. Plan to reforest along the routes that water travels, while leaving other areas open.

**4. Get funding.** Many states, counties and conservation districts provide expert assistance and grant programs for riparian restoration.

**5. Grow native plants.** Your state's department of natural resources or native plant society can provide a list of plants and other expertise. Generally, trees should be planted 15 to 20 feet apart, and shrubs should be about six feet apart.

**6. Maintain what you plant.** The first five years are critical, especially if there are a lot of deer or voles that will eat young plants or invasive plants that often crowd out the natives. After that, the area will likely be self-sustaining with much less need for human care.

**7. Plant as wide a swath as you can.** The wider the restoration area, the more effective it will be at filtering pollutants, controlling sediment in runoff and erosion, and supporting wildlife. It's okay to start narrow if that's what your manpower and resources allow. Then as the land becomes available, widen the zone over time.

# Izaak Walton League Weighs In

## Toxic Train Wreck in Ohio Underscores the Urgent Need to Protect Our Soil, Air, Woods, Waters and Wildlife

*Responding to the train derailment and spill in Ohio in February, the Izaak Walton League issued the following statement:*

The recent tanker train derailment and discharge of dangerous vinyl chloride in East Palestine, Ohio, reminds us of the daily threats to the environment, our drinking water and public health. In the immediate aftermath of this event and in the months ahead, the Izaak Walton League of America proposes these steps to address the spill and related threats to our health and environment.

Federal and state agencies must continuously monitor water quality in the affected area. It's a false narrative to suggest the danger is passed because chemicals are no longer leaking from tanker cars. Those chemicals are in the soil, in the sediment of local streams and will leach into surface and ground water for weeks, months, even years to come. Continuous monitoring and direct communication with the residents of East Palestine about the results of that monitoring are imperative.

Long-term monitoring is also essential, and volunteers like those trained by the League can play an important role in that on-going assessment. Monitoring based on sampling stream life, using Save Our Streams, for example, can be especially effective because this method comprehensively assesses the biological health of streams, and doesn't depend simply on detecting the presence of a certain chemical.

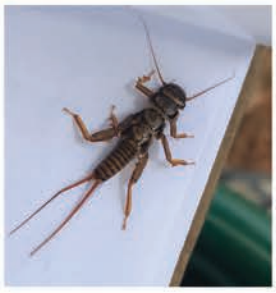
This incident painfully demonstrates the interconnected nature of our waters. Pollutants discharged – purposefully or accidentally – into small streams invariably flow to larger rivers, lakes and drinking water reservoirs. That's why it is vitally important that small streams – even those that might not flow all year long – remain protected by the Clean Water Act. This only reaffirms the League's commitment to fight efforts in Congress and federal courts to undermine these protections.

# Become a volunteer scientist with Creek Critters

There's a whole world of critters in our streams! Find and identify the critters below to discover what they can tell us about the health of our water. The Creek Critters app is a great way to try out biological monitoring (for both kids and adults), generate a stream health score, and, best of all, your results can help educate your community about the health of the stream.

1. Download the free Creek Critters app, developed in partnership with the Audubon Naturalist Society, to your Apple or Android device by visiting www.iwla.org/creekcritters.
2. Click "Collect" or "Identify Critters."
3. Follow simple step-by-step instructions to collect and identify critters in your stream. The app creates a Stream Health Score based on your findings.
4. Automatically share your score on the Clean Water Hub, the Izaak Walton League's national water quality monitoring website!





To learn more and get started, visit www.iwla.org/creekcritters.

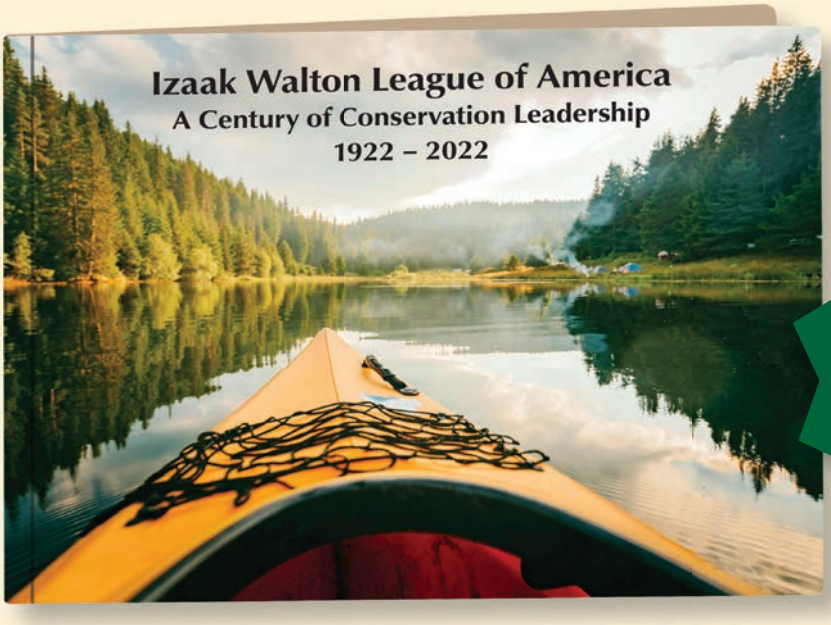
Audubon Naturalist Society
Connecting people with nature in the DC Region

THE IZAAK WALTON LEAGUE OF AMERICA

# Great Gift Ideas:

## New History Book about the League, 100th Anniversary Items

These items make great gifts and giveaways for members, supporters and chapters.




**NEW: Photographic History Book**

### The special-edition book, *Izaak Walton League of America: A Century of Conservation Leadership 1922-2022,* is now available.

Two years in the making, this book displays hundreds of images of people, places and achievements culled from our archives and other sources. This softcover book provides more than 250 pages of historic images, including many that have not been seen in decades. Special appendices list all known chapters since 1922, convention dates and locations, profiles of the 54 founders and much more.

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# 100th Anniversary Items

The full array of 100th anniversary clothing and other merchandise is also available. Shirts, caps, water bottles and other collectibles show off the League's 100th anniversary logo.

More available online!

**Get them while supplies last.**
**View the selections and place orders at iwla.org/shop.**

# LAST LOOK

**"Treat those downstream as you would have those upstream treat you."**

*— Wendell Berry, Citizenship Papers: Essays*

ISTOCK

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# IWLA
## 2023 National Convention
## Lincoln, Nebraska
## July 27-29, 2023

**Ikes from across the country will gather in Lincoln, Nebraska July 27-29, 2023 for the annual Izaak Walton League national convention.**

**One noteworthy change to the schedule: the convention will be held Thursday through Saturday**—not the traditional Wednesday through Friday schedule.

Plan to attend the Early Bird welcome reception Wednesday evening and the convention that begins on Thursday.

We will gather for the convention at Cornhusker Marriott where the League's discounted room rate is $109 per night (excluding taxes).

The Cornhusker has a restaurant and coffee shop. On-site parking is free. If you travel by air, there is free shuttle service to and from the Lincoln Airport.

Stay longer if you can. Lincoln has great restaurants, arts and culture and nearby attractions to visit.

Keep informed about convention registration, speakers and other special events at iwla.org and by signing up for convention-specific emails.

**There's something for everyone in the Cornhusker State.**
**Plan to spend a few extra days when you attend the**
**2023 Izaak Walton League National Convention, July 27-29.**