



Solar energy and its place on the land

President Biden's climate and health bill, the Inflation Reduction Act, which he just signed into law, will greatly increase support for the role of land conservation in mitigating the effects of climate change. For example, incentives are offered to support conservation practices to bolster the ability of conserved working lands to capture and store carbon. Also in the mix of incentives are tax credits for solar power installations that capture renewable energy from the sun. Photovoltaic solar energy has been under study in recent years as a complement to agriculture. In this story, we look at the appeal of "dual use" of land as well as the early adoption of solar energy by landowners who have conservation easements on their land with Mississippi Valley Conservancy.

In a world beset with climate change and its attendant fires and floods, the need for solar energy is immense — vital if the world is to quit burning fossil fuels, the primary cause of the climate crisis.

The International Energy Agency calls for 630 gigawatts of new solar power and 390 gigawatts of new wind power to be added each year by 2030 in order for the world to meet its carbon dioxide reduction goals. For solar power, that amounts to building the world's largest current solar farm nearly every day.

The trick, for those of us in the business of land conservation, is to make a contribution to that effort without compromising our attendant missions of protecting biodiversity and working lands that produce the food we need. There's a growing body of research and practical application that offers hope this can happen using agrivoltaics, the practice of combining agriculture and solar energy collection — a dual use of the land. The University of Wisconsin-Madison is about to join the effort to test this approach. *Continued on page 4*

A message from Carol

There's no time like the present.

It's fall, and that means two things here on the farm. Apples and pears. Over 20 years ago, shortly after we bought our farm, I planted a fruit orchard. As I look back to that time it makes me happy that I had the foresight to plan for the future. When I put those tiny trees in I knew it would be a long time before I'd be able to taste the fruits of my labor — but here we are today: plenty of apples to go into pies, crisps and sauce, and the pears will be canned for a delicious treat this winter.

Our founding members had a great deal of forethought as well. They knew, as they began the process of creating bylaws, a board of directors, committees, and a strategic plan, that it would be many years before they would see the results of all of that hard work — but here we are today, 25 years later, with nearly 24,000 acres protected from any form of future development.

Let's continue this trend of forward thinking.

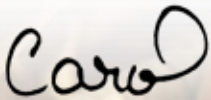
How are we going to protect and connect larger corridors of land to help plants and animals adapt to our changing climate? How will we support biodiversity as we begin to go through the sixth mass extinction? How will we support the move away from fossil fuels and on to renewable energy? How will we help our family farms thrive and continue to bring us fresh and delicious local foods that have less impact on the planet?

The answers to all of these questions lie in working together to protect more forests and prairies for carbon sequestration, water absorption, and biodiversity; wetlands and streams for clean water; farmland for apples and pears each fall; and so much more.

And it all will happen because you care.

Your support now and far into the future is the key to continuing the work we've been doing together for the past 25 years. Please join me in looking forward and pitching in however you can — by volunteering, by protecting your land, or with a gift to help *Save the Driftless...for them* — the next generation to steward the land.

Together in conservation,



Carol Abrahamzon
Executive Director





Conservation trifecta: Funding, research, and education

by Sarah Bratnober

When Travis Key embarked on his first summer research project, before his junior year at UW-La Crosse in 2022, he didn't know his work could help to shape a major conservation project in Wisconsin's Driftless Area.

Travis's academic advisor, Professor Colin Belby, had pointed him to the Dean's Distinguished Fellowship (DDF) program for a list of possible projects. Travis chose to pursue a floodplain restoration study at Mississippi Valley Conservancy's newest nature preserve, Plum Creek Conservation Area. The project was funded by a major donor of Mississippi Valley Conservancy through the College of Science and Health's DDF program, which supports collaborative research between undergraduates and faculty members. Students receive a \$5,000 stipend, along with \$500 to cover travel and equipment costs.

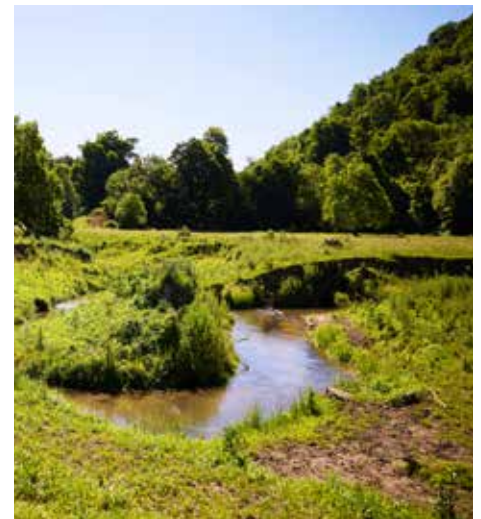
Travis's research project involved studying the topography and soil composition of the Plum Creek floodplain. His work, in collaboration with two faculty members, Dr. Colin Belby and Dr. John Kelly, included drone videography and 3D mapping of the watershed as well as gathering core samples of the soil and analyzing the change of its composition over the years.

Key, a UWL geography major, explains that his research showed how past farming practices, plus increasingly heavy rains due to climate change, led to more and more sediment running off the land and building up along the creek, and this eventually cut the stream off from its floodplain. The result of this type of sediment build-up means water has nowhere to go but downstream, and that has been a contributor to floods that have grown in frequency and severity throughout the larger Kickapoo River watershed, into which Plum Creek and many similar tributaries flow.

"We'll be using the data Travis is collecting to guide the future restoration of the land; evaluating how to improve the functionality and health of the floodplain, wetlands, and sedge meadow habitats to be more resilient to heavy rains and other impacts," said Abbie Church, MVC's conservation director.

Whatever Key does with his geography degree, his experience at Plum Creek will leave him well prepared. "Overall, this has been a great learning experience for me, especially since I'm still early in the program," Key says. "It's a really cool project to be a part of."

UWL student Travis Key (center) and UWL professors John Kelly (left) and Colin Belby (right) prepare to fly a drone over a two-mile stretch of Plum Creek in rural Crawford County. The team is using drone imagery, soil samples and geographic information to help inform the Conservancy's land management plan for the property.



The Plum Creek Conservation Area is an ideal place to teach and promote conservation. The property includes over five and a half miles of frontage along the west bank of the Kickapoo River and over two miles along Plum Creek. Adjacent to the 2,000-acre Kickapoo Wildlife Area-Wauzeka Unit the property supports a high concentration of rare forest-interior breeding birds.

Photos courtesy of University Marketing Communications, UW-La Crosse.

Solar energy and its place on the land

by Dave Skoloda

A number of landowners with conservation easements have already incorporated solar energy systems into their property building zones.

Land trusts nationwide are studying how best to write future easements that would permit solar on agricultural land and still protect the conservation values of the land as well as complying with the requirements of the IRS and standards and practices of the Land Trust Alliance.

Continued from page 1

The University of Massachusetts at Amherst pioneered the concept; they've been at it since 2010 and now offer Extension advice predicting that the combined value of crops and electricity produced will be equal to or higher than single use of the land for production of crops or electricity alone. So the land that produces energy can add to its already substantial role of storing carbon in the soil, crops, prairies, and forests to advance a cooler climate.

The AgriSolar Clearinghouse notes that by 2030, solar installations are expected to cover more than 3 million acres of land in the United States. "Today, most of those installations sit on top of stripped, single-use land. Expanding agrivoltaics on solar-appropriate lands will allow agricultural and solar producers to maximize the use of land, increasing pollinator habitat, diversifying ecosystem services, and increasing revenue."

The research projects seek answers about which crops and growing methods best complement the solar installations. So far, grazing sheep under raised solar panels has attracted most attention for livestock producers, although a University of Minnesota Morris campus project has dairy cows grazing under panels. Vegetable and fruit crops grown under panels have shown promise and community solar pollinator gardens that feed bees are part of projects in Minnesota by SunShare and Xcel.

Adding to the research effort, the University of Wisconsin-Madison recently announced a partnership with Alliant Energy on university-owned land just west of Lake Kegonsa. The university will lease to the utility a 15-acre parcel of land at the 280-acre research campus. Alliant will design, construct, operate, and maintain the 2.25-megawatt solar and agriculture research project. "It gives our students and faculty the opportunity to study soil, water, plant, and animal interactions when a solar array is integrated with agricultural land, which will help our understanding of the costs and benefits associated with siting solar energy in Wisconsin and beyond," a UW news release said. The



"It just feels good to know we have decreased our dependence on fossil fuels." That's how Pam Saunders summed up the decision to add a 19-kilowatt solar installation to their home and lodging business on the West Fork of the Kickapoo River, where she and Tom Lukens have a conservation easement on their property through Mississippi Valley Conservancy.

The solar arrays are "planted," she said, amid hazelnut and pollinator plantings (Pam and Tom are part of a hazelnut growers cooperative). The ground-mounted, grid-connected solar setup delivers about 117 percent of their energy needs. "We are really happy having made this investment. We are told to expect ROI in 6.5 years."



Dave Hackett and Ellen Brooks's grid-tied installation is rated to produce about 5.44 kilowatts, but it sometimes produces more. It's mounted on one large metal post from which they can easily adjust the angle of the panels, as Ellen demonstrates at left. It has reduced their monthly electric bill from about \$55 to \$10. If and when they get an electric car, the wiring is set up to charge that. "Solar power is expensive, especially if you do not qualify for income tax credit, but that may change. We also did not qualify for the state's Focus on Energy since our site does not access the minimum requirement of 90 percent of solar gain due to our beloved forest cover," Dave said. "So, we accept that we, at our ages, 72 and 74, will never get full payback. Rather, it is a small part of the climate crisis solution. We enjoy checking the inverter to see how many kilowatts are being produced at any given time."

project will have the capacity at full production to power some 450 homes.

Thanks to improving technology – such as bifacial panels that are able to harvest sunlight on both sides – solar farms are already producing more power on less land. A recent study by the U.S. Department of Energy's Lawrence Berkeley National Laboratory finds that the average power density, or peak output per acre, of utility-scale plants increased by as much as 52 percent in the past decade. Energy density, or total megawatt hours generated per acre over the course of a year, rose by up to one-third. Using less land by incorporating crops with solar may soften some of the resistance to solar siting that has emerged due to large-scale solar farms.

Using land for both solar photovoltaic power and agricultural production could provide 20 percent of total electricity generation in the United States with an investment of less than 1 percent of the annual US budget, according to Oregon State University researchers. The land involved would amount to only 1 percent of total US agriculture land, the researchers said. Chad Higgins, the OSU professor who was senior author of papers in journals *Sustainability* and *Nature* on ag and solar research, said: "Agrivoltaics provide a rare chance for true synergy: more food, more energy, lower water demand, lower carbon emissions, and more prosperous rural communities."

Most of MVC's land conservation easements permit solar arrays only in property building zones. Land trusts nationwide are studying how best to write future easements that would permit solar on ag land and while still protecting the conservation values of the agricultural lands and complying with the requirements of the IRS and standards and practices of the Land Trust Alliance.

In support of the Conservancy's *Climate Action Plan*, staff and board members continue to evaluate how landowners could incorporate more solar energy production as part of their conservation commitment.

The Agrisolar Clearinghouse, <https://www.agrisolarclearinghouse.org/>, notes that by 2030, solar installations are expected to cover more than 3 million acres of land in the United States. This represents a big opportunity for landowners to increase the income from their land. The AgriSolar website has updates on projects that combine solar with agriculture.



Maggie and David Jones obtain most of their electricity with the solar panels on their farm in Crawford County. Located in the residential zone of their easement agreement, their 12-kilowatt array also powers their Chevy Bolt EV. "The focus and target of solar funds should not be the huge solar farms; solar panels should be located at the point of use," Maggie said in response to a survey of MVC solar adopters. "Our society should finance systems for those who can't afford to have them because it benefits all of us to have sustainable forms of electricity. Solar does no harm to the landscape."

Photos by Sara Hafften, Sarah Bratnaber and Abbie Church

Restoration update: Trempealeau Lakes Nature Preserve

by Drake Hokanson

Sometimes things have to look a lot worse before they can look better. So it is with the Conservancy's Trempealeau Lakes Nature Preserve in the Mississippi River floodplain just downstream from Trempealeau.

Since mature red and white pine were harvested on nine of 55-acre of this property last fall, some passersby have gasped at the change in appearance and wondered when the tornado hit. In fact, removal of the pine stand was the beginning of a conservation project that will restore the land's native woodland habitat. It was a "monoculture," according to Levi Plath, land manager for the Conservancy. "Not much diversity there," he said.

The property is in the Mississippi River bottomlands and contains spring-fed waterways that feed Second Lake and eventually the river. It's open for public use with access to Second Lake and a popular walking trail. *Be advised that part of the trail is closed during the restoration.*

The Conservancy's management plan for the property, approved by the Wisconsin Department of Natural Resources, has always included removal of the dense pine monoculture and replanting with a variety of native river bottom species.

"The word 'clearcut' has a bad connotation, but in some instances it's the best conservation practice," according to Plath. "We'll plant swamp white oak, silver maple, maybe

some river birch, button bush, maybe hazelnut," said Plath. "We'll be recreating a quality floodplain forest."

This will a better habitat for everybody, said to Plath. "The oak provides habitat for butterflies and moths, so we're rebuilding the food web from the bottom up – from insects to fish to birds to small mammals, and it trickles up to bigger animals."

In the 1950s, the property was bottomland forest except for a nine-acre relict farm field. In 1957 then-owner Joe Becker planted the pines in the old field as a conservation measure. At the time of harvest, those pines measured about 15 inches in diameter.

Even as he planted the pines, Joe considered them a commodity to be harvested in the future. Today he is happy to see them cut for income and happy to see active restoration work. "I didn't think I'd live to see them harvested," Becker said.

Part of the cost of the restoration will be paid for by the sale of the cut timber, which yielded approximately \$20,000. Xcel Energy Foundation has also contributed funds for the project.

Above: Morning mist rises from the wetland area, where remains of the pine harvest await removal. Below left: The pine stand that was harvested in 2021. Below right: The harvest of pine that was sold to partially pay for the restoration.

Photos by Sandra McAnany (top), conservancy staff (below left), Bud Hammes (below right).



A place for everyone: **Autumn outdoor fun!**

You're always welcome at the many nature preserves you've protected. We also invite you to connect with nature through guided activities and events. Get details at: www.mississippivalleyconservancy.org/events

September 24 City & Beyond Nature Challenge (fungi) – a Driftless Area BioBlitz event at Lower Hixon Trailhead. Sign up at www.strive2thrivecr.org/events

September 25 City & Beyond Nature Challenge (insects) – a Driftless Area BioBlitz event at Myrick Park Center. Sign up at www.strive2thrivecr.org/events

October 15 Evening Sky Prairie Walk – a guided stargazing walk at Tunnelville Cliffs near La Farge. Sign up at www.mississippivalleyconservancy.org/events



Photo by Vendi Share

Stewardship Circle Bequest Challenge

The Stewardship Circle is a special group of land conservancy supporters who have made a lasting commitment to land protection through a variety of estate planning tools. Right now you have an amazing opportunity to expand the work of protecting, caring for, and restoring our unique and beautiful Driftless Area for the benefit of everyone. When you make a planned gift, \$1,000 will be donated to Mississippi Valley Conservancy in your honor from the Stewardship Circle Bequest Challenge Grant. Details are on our website at www.mississippivalleyconservancy.org/ways-give



*Please join us
in thanking these
Conservation
Partners and
Supporters*

CONSERVATION PARTNERS

PLATINUM

Dahl Automotive
Franciscan Sisters of Perpetual Adoration
Vendi Advertising

DIAMOND

Olson Solar Energy

GOLD

American Transmission Company
Associated Bank
Fowler & Hammer General Contractors
J.F. Brennan Company, Inc.
Organic Valley

SILVER

3 Amigos Property Management
Dairyland Power Cooperative
E.J. Robers Co., LLC
Gundersen Health System
Mayo Clinic Health System
Mid-West Family Broadcasting

CONSERVATION SUPPORTERS

Advertising Concepts
Altra Financial Advisors
DuraTech Industries
Johns, Flaherty & Collins, SC
Johnson Block and Company CPAs
La Crosse Distilling Co.
People's Food Cooperative
Prairie Moon Nursery
Robert W. Baird & Co.
Seven Rivers Signarama
Shopdriftless.com
Trust Point, Inc.
Verve, a Credit Union
Wegner CPAs
WKBT/News 8 NowWLAX-Fox 25



1309 Norplex Drive, Suite 9
La Crosse, WI 54601
608.784.3606
mississippivalleyconservancy.org
info@mississippivalleyconservancy.org

Like us on Facebook for more news!

Mississippi Valley Conservancy is a regional, nonprofit land trust based in La Crosse, Wisconsin. The Conservancy has permanently conserved 23,929 acres of blufflands, prairies, wetlands, streams, and farmlands in and around the Mississippi, Kickapoo, and Wisconsin Rivers since its founding in 1997. Over 7,000 acres are open to the public for hiking, bird watching, hunting, fishing, photography, and snowshoeing.

Board of Directors

Sue Dillenbeck, *President*
Gretchen Pfeiffer, *Vice President*
Roy Campbell, *Treasurer*
Bob Fisher, *Secretary*
Pat Caffrey
Sheila Garrity
Barbara Frank (*Emerita*)
Don Frank (*Emeritus*)
Philip Gelatt (*Emeritus*)
Laurie Harmon
Drake Hokanson
John Kelly
Maureen Kinney
Dave Lange
Dorothy Lenard
Beth Piggush
Mike Ripp
Ross Seymour
Dave Skoloda
Pam Thiel
Craig Thompson (*Emeritus*)
Rob Tyser
Steve Ventura
Tim Wucherer

Staff

Carol Abrahamson, *Executive Director*
Abbie Church, *Conservation Director*
Chris Kirkpatrick, *Conservation Specialist*
Krysten Zummo, *Conservation Associate*
Connor Kotte, *Stewardship Coordinator*
Levi Plath, *Land Manager*
Nancy Larson, *Finance & Operations Mgr*
Leanne Kruse, *Development Coordinator*
Sarah Bratnober, *Communications Director*

Printed on paper containing mixed-use recycled content.

Non-Profit
Organization
U.S. Postage
PAID
Permit No. 372
La Crosse, WI



Save the driftless . . . for them.

The future is bright when we join hands to protect land and water for future generations.

Come and celebrate all we've accomplished together at our 25th annual fall fundraiser with Conservancy updates, dinner, silent auction, and LIVE auction!

Friday, November 4

Radisson Hotel La Crosse
5:30-8:00 p.m. Tickets at:
www.mississippivalleyconservancy.org/events



Join us for a rollicking evening of fun at our 25th annual fall fundraiser! Spin the wheel, bid on treasures and experiences, and drink a toast to all we have done and will do together in the next 25 years!

Watch for your invitation in the mail or buy tickets on our website today. Everyone is welcome!

Protecting the land, water, and climate is the best thing we can do for those who will inherit this place – future farmers, future families, future stewards of the land – and all the wildlife that depend upon it.

There's much more work to be done to **save the driftless . . . for them.**