

2023-24 ANNUAL REPORT



W.K. Kellogg
Biological Station
MICHIGAN STATE UNIVERSITY



BROADENING OUR IMPACT



DEAR FRIENDS AND NEIGHBORS,

Thanks for your support and engagement with Kellogg Biological Station over the past year. We wouldn't be able to excel at the three pillars of our mission—research, education and outreach—without you.

You may be aware that I recently stepped back from administrative responsibilities at KBS. It's been my honor to serve as director since 2020, and I'm thankful for the support of this exceptional community. Jeff Conner is serving as interim director until my successor is hired.



One emphasis at KBS this year has been to broaden the impact of our work. Those familiar with the National Science Foundation and how it funds projects will recognize “Broader Impacts” as an important part of any grant proposal—the NSF wants to know how a proposed project will benefit society beyond advancing science itself.

While research studies haven't always been designed with a clear intent to impact society, much of the work at KBS has been focused on exactly that, through education and outreach. The KBS K-12 Partnership, which offers professional development opportunities for local educators, is one example. The Long-Term Ecological Research and Long-Term Agroecosystem Research programs have been instrumental in reaching out to the agriculture community, and hearing their concerns, to improve both sustainability and yield through farming practices.

This report contains inspiring stories that highlight the KBS commitment to engaging with the communities around us—farmers, educators, K-12 students, artists, and our local community at large. I hope you'll join us in the coming year for a class, field day, workshop, or a visit to the Bird Sanctuary or Manor House. KBS is better with your involvement and support.

With gratitude—

Fredric Janzen
KBS Director

SHARING OUR SCIENCE

INCREASED ATTENTION TO THE BROADER IMPACTS OF RESEARCH HELPS CONNECT KBS AND OUR COMMUNITIES

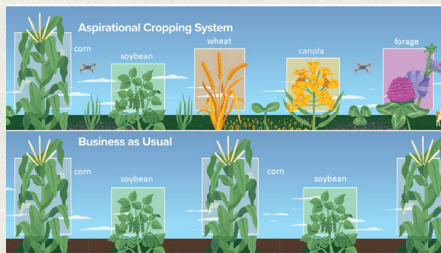


KBS is committed to supporting education and outreach for the wider community. Much of the research and community engagement work at KBS is funded by the National Science Foundation, which considers how projects plan to share findings beyond the scientific community when awarding funding. This is called the “Broader Impacts” of a study.

Engaging the community is a collective effort from across KBS, including the Bird Sanctuary, Long-Term Ecological Research—LTER—and Long-Term Agroecosystem Research—LTAR—programs, Kellogg Conference Center and Manor House, and the facilities, grounds, and custodial crews.

Social and digital interactions

In 2023, the KBS LTAR held its first-ever field day in partnership with MSU Extension, which more than 90 people attended. KBS researchers and staff shared research about the “Common Experiment,” a study across LTAR sites that compares conventional and aspirational agricultural practices, looking at differences in profitability, drought resilience, soil health, and precision technology which allows for alternate plantings, such as prairie strips, in low-yield areas. Importantly, field day attendees were able to speak about their experiences and suggest ideas for additional study topics that the LTAR might pursue.



This year, the KBS LTER program, together with MSU Extension and MiSTRIPS (the Michigan chapter of the Science-based Trials of Rowcrops Integrated with Prairie Strips program), developed a new tool to help farmers estimate the cost to convert cropland to prairie strip plantings.

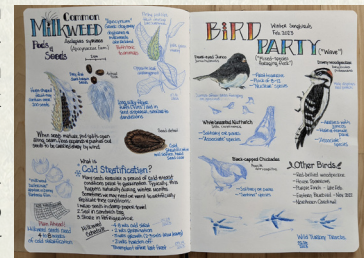
The tool helps producers determine whether less productive

areas—often field borders or low-lying areas—cost more to plant with crops than to restore to prairie. Findings reveal that planting prairie strips could save farmers money in areas where crops yield below 50% of the statewide average.

Converting strips of cropland to a mixture of perennial, native plants is gaining popularity in Michigan. Prairie strips have been shown to reduce nutrient leaching, add habitat for pollinators and prevent erosion, all without reducing crop yields.

Blending art and science

After three years of offering a nature journaling course through the Kellogg Bird Sanctuary, KBS staff and several current and former outreach fellows published an article about the experience in a special issue of the Plant Science Bulletin.



In part, they wrote, “Nature journaling invites us to connect with our curiosity for the natural world by keeping records of our observations. Anyone—even those not trained in art or science—can...cultivate mindfulness and wonder and deepen their understanding of the environment.”

Community science at the Sanctuary

The KBS BioBlitz completed its second year in 2024. More than 125 participants gathered to photograph species in certain categories—such as insects or birds—and added their observations to the iNaturalist app. In 2024 alone, the BioBlitz documented 174 species of insects, and almost 400 species overall, with more than 1,000 total observations.

Eventually, data collected over five annual BioBlitz events will be compared to local climate patterns to measure how insects respond to ongoing climate change.

TO TEACH AND LEARN TOGETHER

THE KBS K-12
PARTNERSHIP MARKS 25
YEARS OF PROGRAMS
FOR EDUCATORS



In 1998, KBS and MSU faculty Stuart Gage, Kay Gross, Mike Klug, and G. Philip Robertson responded to a K-12 supplement request from the National Science Foundation. They wrote, “To supplement our project, ‘Organisms in the Agricultural Landscape’...we request \$15,000 for costs associated with initiating a K-12 outreach program.”

That request was granted, and the KBS K-12 Partnership was formed through the KBS Long-Term Ecological Research, or LTER, program. This year, the Partnership celebrated its 25th anniversary and continues to provide professional development experiences for K-12 teachers and informal educators.



PARTICIPANTS IN AN EARLY KBS K-12 PARTNERSHIP PROGRAM

The program, originally called the K-12 Science Literacy Partnership, launched in 1999 with 22 middle-school science teachers joining faculty from the KBS LTER and the MSU College of Education. Driven by teacher input, the group developed inquiry-based modules inspired by KBS agricultural research and landscapes. Over the next decade, the Partnership incorporated several

NSF-funded initiatives, including Research Experiences for Teachers, the Math Science Partnership program and the Graduate STEM Fellows in K-12 Education program.

Over the past 15 years, the Partnership has flourished. In 2011, the Data Nuggets project, which produces free classroom activities—co-designed by scientists and teachers—to bring research and data into the classroom, was founded. The Teaching Science Outdoors program, or TSO, which offers place-based science experiences for K-5 teachers, began in

2015. In 2018, the TSO Urban Partnerships Program grew efforts to support elementary science teachers in Michigan’s largest urban school districts, Detroit and Lansing.

The KBS K-12 Partnership continues to thrive. More than 115 educators from 59 districts attended the 2024 offerings, including the annual spring and summer programs.

At the 25th anniversary celebration in June, retired Hastings High School teacher Marty Buehler, said:

“All teachers know that attending professional development creates more work than being in the classroom to teach...But then you get here and you feel different. You’re with your friends and you make these relationships...which transcend the little bit of time you are gone from your kids. Because what you gathered and garnered was so valuable, it made a difference in teaching.”



CELEBRATING THE 25TH ANNIVERSARY OF THE KBS K-12 PARTNERSHIP

Kara Haas, KBS K-12 Partnership coordinator, said “The magic of the Partnership lies in the long-term relationships we form. Teachers return year after year to deepen their knowledge, strengthen their teaching practices and find support among like-minded colleagues.”

Elizabeth Schultheis, outreach and education coordinator for the KBS LTER, said “It’s because of these long-term relationships with teachers that we’ve learned so much about the needs of Michigan students and educators, and are able to build programming that responds to those needs.”



SUPPORTING KBS SCIENCE

Two KBS lab managers have been recognized with MSU College of Natural Science Support Staff Awards over the past year.

Holly Vander Stel (right), who works in the Evans Lab, received a 2023-24 award. Allyson Hutchens (left), who works in the Shah and Litchman labs, received a 2024-25 award.

The Support Staff Award is given to support staff members who exhibit exceptional support to the College of Natural Science or one of its units. Recipients are chosen based on excellence in job performance, supportive attitudes, and contributions that lead to improved efficiency or effectiveness to better the College's ability to fulfill its mission. Just two or three staff members are singled out for the award each academic year.

Thanks to Allyson and Holly for the talents and passion they share with KBS.

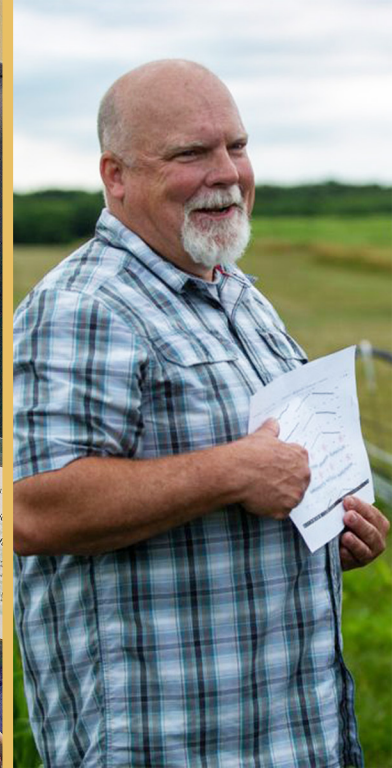
MEANINGFUL MENTORSHIP

KBS faculty member Nick Haddad and research assistant Kevin Kahmark each were recognized this year for excellence in the area of mentoring.

Haddad (left) won a 2023 MSU College of Natural Science Junior Faculty Mentoring Award. That award recognizes one recipient annually who demonstrates outstanding mentorship by successfully guiding junior faculty members successfully through their academic career paths.

Kahmark (right) was chosen for the inaugural mentorship award from the Great Lakes Bioenergy Research Center. The new award honors GLBRC members who prioritize the spirit of mentorship and who strive to promote the success and development of those around them.

Mentorship is central to the KBS experience, and we're proud to see those efforts by both faculty and academic staff honored. Congratulations again to Nick and Kevin.





GROUND S FOR CELEBRATION

Stu Bassett served KBS as grounds supervisor for more than 40 years. Earlier this year, we celebrated Stu and a career that leaves an enduring impression.

After graduating from MSU’s landscape and nursery management program, Stu was hired at KBS in October 1980. Since then, he’s been involved in countless projects, both large and small.

If you’ve ever searched for frogs in the Bird Sanctuary’s Light Memorial Water Garden or peered over Wintergreen Lake through the telescope on the deck of the Overlook Building; or, if you’ve ever enjoyed a quiet moment in the Pergola Garden at the base of the stairs leading up to the Manor House—you’ve appreciated Stu’s work.

Whether it was fixing broken equipment, conducting prescribed burns, catching fish, paving pathways, burning brush, or planting countless trees, Stu’s stewardship of KBS will long be seen, felt, and appreciated.

A LIFETIME OF LEADERSHIP

This year, we recognized Col. Jim Allen (center) for his decade of service as the manager of the KBS Conference Center. An MSU alum, Allen came to KBS after a 30-year career in the U.S. Army, the Army Reserve, and the Michigan National Guard. In addition to his work at the Conference Center, Allen served as an advisor for MSU’s Veterans Outreach Committee.

“Jim brought his military organizational skills to KBS and deftly steered the Conference Center through the COVID-19 pandemic,” said Andy Widner, KBS associate director of operations. “He has always been willing to roll up his sleeves and get the job done.”

“I’ve learned many valuable skills under Jim’s leadership,” said Nicole Kokx (right), now the manager of the Conference Center and Manor House. “Jim leads from the heart and is passionate about providing a safe workplace where all employees feel valued and included.”



THANK YOU

FOR YOUR GENEROSITY TO KBS IN 2023-24

Each year, contributions to KBS are made in memory or in honor of people whose lives have made lasting impacts. These gifts have been recognized in this list.

In memory of:

1. William "Bill" Butler
2. Dorothy Carnell
3. Patricia "Pati" Czinder
4. Andy Fogiel
5. Judy Geary
6. Donna Harris
7. Judy Maier
8. Rita Spencer
9. Dorothy Spinner
10. Tim Worley

In honor of:

11. Stu Bassett
12. David G. Dvorak, M.D.
13. Ashley Kechrone
14. Karol Peterson
15. Karen Wenk

BECAUSE OF YOUR SUPPORT THIS YEAR:

We were able to help fund hands-on research experiences for undergraduate students.

The Bird Sanctuary's root cellar cupola, which is to the right while walking down to the Leslie E. Tassell upland game bird display, received needed repairs.

A new prairie restoration plot will be established at the Bird Sanctuary.

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IN MEMORIAM: ANDY FOGIEL



THE WINDMILL ISLAND MEMORIAL FOR ANDY INVITES REST AND REFLECTION

The KBS community experienced a jarring loss in early 2024—the sudden and unexpected passing of a dear colleague and friend, Andy Fogiel.



Andy, a longtime MSU employee and KBS's operations and safety coordinator since 2013, died on Feb. 21, and the loss of Andy has left a huge void in the KBS community. His impact and influence was so wide-ranging and inspirational.

We're grateful to everyone who helped create a space on Windmill Island in memory of Andy, and to the KBS grounds and facilities teams for bringing that vision to fruition.