

**Iowa Learning Farms Program
15IFLM001
Integrated Farm and Livestock Management Demonstration Program
January-December 2015**

INTRODUCTION

2015 marked the beginning of a second decade of the Iowa Learning Farms program! At the beginning of the year, our Steering Committee asked that we assess our success after the first decade of our program. We conducted a 10-year evaluation of the Iowa Learning Farms to look specifically at the statewide and regional demographics of our outreach, education and demonstrations. We were pleased with the results of the evaluation that shows our program is making a difference in Iowa. The report was made available to the ILF Steering Committee and on our website in March, 2015. You can read a copy of the full report and the Executive Summary at <http://www.extension.iastate.edu/ilf/content/ilf-reports>. The evaluation report for 2015 will be available at the Steering Committee meeting on Feb 22, 2016.

2015 was a record year for the Iowa Learning Farms team. We continued to diversify our funding portfolio and we also continued our tradition of excellence in outreach and education. Here's a snapshot of the teams accomplishments in 2015:

- 204 total outreach events, reaching 22,501 people – 39% over 2014 and a 72% increase since 2013!
- 31 farmer workshops/field days, reaching 1,487 people
- 139 community/youth outreach events, reaching 19,551 people
- 34 conferences/presentations, reaching 1,516 people

We would like our Steering Committee to ask themselves the question we asked at Partnership Day in January 2015: Who fills the gap of statewide conservation education and outreach if these programs weren't here? Every year we have to consistently turn down 1/3 of our overall requests due to time conflicts and staffing issues, which means that we have had a 39% increase in requests. I don't think anyone could have imagined this kind of need for conservation education and outreach when Iowa Learning Farms started back in 2004.

The ILF team looks back not at 2015 with satisfaction of a successful year. We have accomplished so much over this year. We are happy to announce that Iowa State University is recognizing our efforts last year and awarding us a 2015 Team Citation. We enthusiastically look to 2016 and beyond with eyes on doing things the tried and true in fresh ways and introducing new approaches to outreach and education. The future hold the promise of continued success with farmers learning and adopting conservation practices, such as cover crops and prairie strips, as well as the next generation taking pride in Iowa's land and water.

--ILF Program Director Jacqueline Comito and Dr. Matt Helmers

OUTREACH/EDUCATION

Field Days and Workshops

In 2015, the Iowa Learning Farms hosted **25** field days. Field day topics covered cover crops, bioreactors, prairie strips, nutrient management, strip cropping, extended rotations and rotational grazing. Speakers included staff from ISU Extension and Outreach, local NRCS office, Iowa Department of Agricultural and Land Stewardship, National Laboratory for Agriculture and the Environment, Practical Farmers of Iowa, National Corn Growers Soil Health Partnership, Iowa Soybean Association, as well as local watershed coordinators and great local farmers implementing the practices.

ILF also coordinated **four** CREP wetland tours with Buena Vista College, Iowa Central Community College and Wartburg College (both spring and fall). Total field day attendance was 1,381 and 93 college students participated in the CREP tours.

Conservation Station Fleet

Quarter 1:

The Conservation Station fleet remained winterized for January and February. The Big CS rainfall simulator apparatus received a mini makeover in February with fresh powder-coated paint to extend the life of the framework. The CS fleet made their spring debut on April 16. This year, the fleet made appearances at 88 events all across the state, including the 11 days of the Iowa State Fair. When things quieted down this fall, the Big CS received new axels and wheels to help minimize flat tires that had begun to plague our summer travels. Each trailer is now equipped with an electric jack to help with quick attach/detach from the trucks. The trailers were winterized in November and will roll out again next spring.

Other Outreach

- Promotional material for a cover crop workshop and a field day were written, designed and distributed, including news releases, flyers and postcards.
- *Wallaces Farmer* published twelve articles for ILF and Water Rocks! this year.
- A new brochure for ILF was created this year containing general information about the ILF program. This is given out at conferences and in packets, promoting the program.
- The how-to DVDs were made available at the all field days, as well as several conferences. Also DVDs were sent to those requesting copies for their events. In 2015, **1,869** DVDs were given out or mailed.

Electronic Outreach

“Conservation Chat” podcast: ILF launched a new podcast series “Conservation Chat” in February, in which host Jacqueline Comito chats with people across the state about conservation. The interviews are casual, engaging and at times humorous! Fifteen episodes were released in 2015 and total downloads have reached **1,252**.

E-newsletter: The ILF e-newsletter was sent out each month this quarter and subscribers is over **2,500**. The e-news goes out on the third Monday of each month. Webinar reminders went out to the same list on the mornings of each webinar.

Webinars: Our webinar series continues to be a successful, low-cost outreach tool. We have hosted **59 webinars** and collectively the series has had **19,004 views!**

Social Media:

- This year ILF logged on to **Twitter** and is up to **364 followers** with more following regularly. @ialearningfarms
- The ILF **Facebook** page keeps growing with **388 likes**.
- The **ILF Blog** keeps gaining followers too, which is up to **962**. www.iowalearningfarms.wordpress.com/

A new campaign “1 New Thing For Water” kicked off at Conservation Partnership Day in Des Moines. People are to tweet or post on Facebook what one thing they will do for water this year. The response is ongoing. Tweet: #1newthingforwater

Websites:

In 2015, the ILF webpage recorded **4,141** visits, with an average of 1.3 page views per visit. There were **1,609** new visitors and **2,532** returning visitors this year.

The Conservation Pack webpage recorded **2,308** visits, with an average of 1.7 page views per visit. There were **1,813** new visitors and **495** returning visitors in 2015.

YouTube: There are **279** subscribers to the ILF channel and over **157,065** lifetime views of the **56** available videos.

ADMINISTRATION AND EVALUATION

In March we welcomed new team member Ben Schrag and he jumped right in to school visits and music. Ben has an elementary education degree and taught 2nd and 4th grades, as well as served as a college adjunct instructor. He is also an accomplished, published playwright and songwriter. We also started training for our six undergraduate student interns have been hired for the water resources summer internship program (5 ISU/1 Hawkeye Community College). One particular unique story is student intern Mikayla Edwards. She first experienced Water Rocks!/ILF and the Conservation Station in July 2012 when we presented at Camp H2O/Pilgrim Heights Bible Camp where she was a high school counselor. She remembered how great and fun our program was, and three years later, is what led her to apply for our internship program!

Comito was promoted to Program Director in April and also received a national award for her leadership on wetlands outreach and education. We continue to encourage our staff to explore different opportunities for professional development. Comito and Staudt attended a river restoration and water quality conference in May. Stevenson and Schrag attended a two-day soil health workshop in July.

We wrote a proposal to expand the multi-year Iowa Cover Crop Working Group cover crop project and developed projects to be submitted to Walton Foundation and McKnight. We were pleased to have our Iowa Conservation Innovation Grant successfully funded in September and to get the opportunity to pilot the Conservation Learning Labs project. We were asked to submit a full proposal to IDNR to conduct a post-assessment of the Lyons Creek Section 319 watershed improvement project. The Iowa River Revival contracted with us to conduct farmer listening sessions in July. We were also awarded Leopold Center dollars and NRCS funding for 2016 and we will partner with University of Wisconsin to conduct wetland plant identification training in the Midwest with FSA staff.

This year we needed to do some maintenance on our Conservation Station Fleet. Throughout the summer, the Big CS kept blowing tires (fortunately no major damage was caused and no one was hurt). This fall we made the choice to replace both axles were and upgrade it from 3,500-pound axel to 6,000-pound axle. The large trailer rides nicer and should be road ready in spring. We also added new electric jacks on the CS3 and Lil' CS. We do our best to keep these trailers in solid working condition and we have been fortunate/grateful not to have any major mishaps.

The end of 2015 was a time of transition for the Iowa Learning Farms team. Long time communications person Carol Brown left us to join the Leopold Center staff and Ben Schrag left us for a different opportunity. We were fortunate to hire two really talented people. Julie Whitson is an Extension Program Specialist with a background in sustainable agriculture, regional planning and non-profit program development. Paola Sepulveda is our Communications Specialist and has a background in landscape architecture, environmental studies and design. Paola started in December and Julie started in January. Both new team members bring unique and necessary skills to the team.

Evaluation

Early fall 2014, our Steering Committee asked us to conduct a 10-year evaluation of the Iowa Learning Farms to better track our outcomes, successes and pinpoint areas where we could improve. This quarter, we completed this assessment. We also did our usual 2014 evaluation. The following are the four evaluation reports completed during this quarter (they are also available on our website): Field Day Audience Participation Report, 2014 Evaluation Report, ILF 10-Year Report, and Community and Youth Outreach Report.

All information from the ILF field day comment cards has been entered into Excel. In total, 611 year-end evaluations from 25 events were mailed out at the end of December to farmers/operators and landowners who attended a field day/workshop in 2015—so far we have gotten 35% of those returned to us. In total, we received 854 comment cards and mailed out 598 two-week evaluations for the first 18 field days and achieved a 41% response rate. In addition, farmers attending ILF field days/workshops in 2015 were invited to complete Action Plans indicating their commitment to plant cover crops, convert acres to no-till/strip tillage, or implement other conservation practices. A total of 268 farmers completed action plans at ILF events, representing 66 of the 99 counties in Iowa. All of this information will be available in our 2015 evaluation report that will be available by Steering Committee meeting in late February.

WORK WITH DEMONSTRATIONS, RESEARCH AND LEVERAGED PROJECTS

Iowa Cover Crop Working Group (ICCWG)

This year the ICCWG hosted thirty-eight cover crop field days with cover crop mixtures as the main focus. The events featured area farmers as well as researchers from Iowa State University Extension and Outreach (ISUEO). Attendance for the field days totaled 2,048.

ILF planned a cover crop track for the 2015 PFI Annual Conference, Jan. 23-24, in Ames. The first session had 40 attendees and featured ISUEO weed specialist Bob Hartzler and beef specialist Joe Sellers who discussed grazing and herbicide concerns and restrictions. The second session had standing room only with 110 attendees with a panel of cover crop experts including ISUEO horticulture specialist Ajay Nair, field agronomist Mark Johnson, farmers Wade Dooley and Steve McGrew. The panel discussed the Top 10 Cover Crop Species in Iowa and the potential benefits or concerns of each.

The ICCWG and several of our ILF Farmer Partners (Tim Smith, Wade Dooley, Rick Juchems, and Steve Berger) had a highly visible role in the Cover Crops Iowa Conference held in Des Moines in February. The Iowa Learning Farms helped Dr. Tom Kaspar pull together the Iowa poster for the conference. We also received SARE grants, with Jamie Benning's leadership, to sponsor eight farmers to the conference.

SSCC/Leopold Center Cover Crop Project

On-farm demonstration work for crop year 2015 continued with seven farmer partners in the following counties: Greene, Butler, Guthrie, Ida, Washington and Taylor. These partners seeded cereal rye strips in fall 2014 to gather long-term results and demonstrate using cover crops in their area with funding from the Leopold Center. Spring biomass sampling by the ICCWG began on April 21 and concluded on May 15. The biomass samples were sorted, dried, weighed and submitted for processing to find total carbon/total nitrogen amounts. PFI collected Haney Test soil samples at all seven sites and submitted them for analysis. ILF also led a team to collect earthworm counts at the Funcke, Stout, Schaefer, and Tobin farms, and also Dr. Kaspar's plots near Ames. Seed for fall 2015 cover crops was delivered to Funcke, Tobin, and Juchems in early September as the partners prepare for harvest. Fall seeded cereal rye strips will continue at six of the sites (Greene, Butler, Guthrie, Ida, Washington and Taylor) to gather longer term results and demonstrate cover crops in their area with funding from the Leopold Center. Washington County farmer partner, George Schaefer will not be continuing the strips as he plans to change the orientation of the field rows and seed the entire field to cover crops. Communication lines with the farmer partners remain open to collect yield results and process payment paperwork.

Economic Exploration of Cover Crop Benefits to Crop and Livestock Systems

We have updated the work started by Dr. Michael Duffy to estimate the value of the soil lost to erosion using changes in CSR2, yield potential and rental value. From a publication by Dr. Mahdi Al-Kaisi on the nutrient value of lost organic matter by erosion, estimated values for nutrient loss have been included in the soil value calculations. Using modeling to estimate the reduction in soil erosion from cover crops, we will be able to assign an economic benefit value to the cover crops from the reduced soil loss. The initial results of the RUSLE2 models are demonstrating a relatively small decrease in erosion with cover crops. Assessments of RUSLE2 indicated the need to update the input files to more accurately represent the use of cover crops. Dr. Tom Kaspar is assisting in the updates to the input files from his rainfall simulation study results. Contact has been made with the DC office to prepare updated files for the RUSLE2 program and we are waiting for these files.

The Economics of Cover Crops publication was completed in November 2015 and was presented at the November 5 field day in Black Hawk County. The publication is available to download from the ILF Cover Crop Resources webpage. Benning and Juchems have been invited to participate in 9 Crop Advantage Series events across the state in January to share the results of the study.

The second component is to work with livestock producers to estimate feedstock value of cover crops. A meeting with Joe Sellers and Erika Lundy was held on September 18 to assess the current livestock cover crop publications and develop a plan for a joint publication. The counties used in the project include at least two counties from each crop reporting district, as well as the nine counties where the long-term rye study partners are located, for a total of 20.

National Conservation Innovation Grant

Beginning Mar. 20, the ICCWG members visited each site with lysimeters to reapply vacuum and assess the cover crop growth. Ground water lysimeter sampling continued every other week at each site until they were winterized beginning Nov.13 and concluding on Nov. 20.

For all sites, the only species to successfully overwinter was cereal rye in the plots going to soybeans. The farm managers collected spring biomass samples to capture an accurate picture of growth prior to termination. The first samples were collected at the Southwest farm at Lewis on Apr. 22 and the final samples were collected at the North-central farm at Kanawha on May 21. These samples were sorted, dried, weighed and submitted to the lab for further analysis. Rye biomass was also sampled by the four farmer partners in the project that had the before soybeans mixture. Even with frequent rain events, the team was able to collect late spring nitrate soil samples from each plot at all six research farms starting Jun. 2 and concluded on Jun. 18.

All six sites were hand-seeded between Aug. 25 and Sep. 4, for the third year of cover crop seeding. The seed was delivered to the sites for aerial application. The first strips were seeded on Aug. 26 in Cherokee and Clay Counties. Supplies for fall biomass sampling were mailed to the farmer partners. Fall biomass was also collected at the time of winterization. Fall yield information was collected for crop year 2015.

State Conservation Innovation Grant

Due to the early and hard frost in fall 2014, the cover crops did not overwinter at any of the locations. The seed order was placed for the project and the custom operator confirmed for the post-harvest drilling. Paperwork to reserve the Wright County NRCS's grain drill and planning for seeding was also completed.

The two treatments of pre-harvest seeding were completed August 27 for all three sites. The final method of seeding via grain drill was completed on October 15 at the Kanawha Research Farm site and on October 16 for the Hagie and Smith sites. The fall biomass was sampled at the Hagie site on October 28 in advance of fall tillage to help reduce track compaction. The Kanawha and Smith sites were sampled on November 13. The samples were sorted, dried, weighed and submitted for further analysis. Yield information was collected for crop year 2015.

WATER ROCKS!

Kansas City Teacher Summit (February 24-25, 2015): Funded by a separate grant from the United States Environmental Protection Agency, the Water Rocks! team traveled to USEPA Region 7 headquarters to present a Summit for KC-area teachers, watershed coordinators, outreach professionals, and EPA Region 7 personnel. There were 28 total attendees. Educators were given complimentary Water Rocks! activity kits, while watershed coordinators and outreach professionals have the option of purchasing the kit. Of particular note, folks from KC Water Services called to inquire about purchasing a kit, commenting, “We used the ‘We All Live in a Watershed’ game with a group of Girl Scouts last night, and they just loved it! They had so much fun! We’d like to go ahead with purchasing the full kit.”

Water Rocks! Teacher Summits @ ISU (June 10-11 and June 24-25, 2015): Two Water Rocks! Teacher Summits were held at Iowa State University this summer. Each Summit included a mix of knowledge building for the teachers along with numerous hands-on activities, videos, songs, and instructions for how to effectively teach these lessons to different ages of students. Attendees also had the opportunity to further their technical understanding of agricultural and environmental issues with a field tour of multiple conservation-related sites around central Iowa, in addition to talks by ISU faculty/staff guest speakers. Between the two Summits, we worked with **20 school teams** (total of 50 teachers and 4 high school peer mentors) from across the state, including a broad geographic distribution, as well as a diversity of age groups and subject areas.

Water Rocks! Winter Summit @ ISU(December 3, 2015): The inaugural Water Rocks! Winter Summit was a smashing success! This one-day professional development workshop was designed explicitly for non-formal educators, including 4-H and extension educators, SWCD youth outreach coordinators, watershed coordinators, municipal/public works education personnel, STEM coordinators, and county naturalists. **Fifteen** different teams participated. Workshop participants were taught lessons on such topics as watersheds, wetlands, biodiversity, and soil, through the many unique, hands-on, interactive games and activities that the WR! team has developed. As part of the workshop, each team purchased the complete Water Rocks! activity kit (valued at \$800+), so they went home with all of these games and activities ready to use in their youth outreach and education programs. Financial assistance was available to help select individuals/teams attend the WR! Winter Summit. Jamie Benning (Iowa State University Extension and Outreach Water Quality Program) provided scholarships for 4 ISUEO teams. We were also awarded a SARE mini-grant, which allowed us to provide scholarships to 6 additional teams.

Comito wins National Wetlands Award for Education and Outreach: Water Rocks! Director Jacqueline Comito traveled to Washington, DC in May to accept the 2015 Environmental Law Institute National Wetlands Award in Education and Outreach. Her creativity and energy have shaped Water Rocks! into a truly unique and highly effective youth education program!

Water Rocks! videos rock the Iowa Motion Picture Association Awards: The Water Rocks! team was honored with 29 awards from the Iowa Motion Picture Association at their annual awards gala in May. We are very pleased to have this body of work recognized for its educational value, creativity, AND technical merit. Our videos received awards in the categories of acting, direction, art direction, student production, educational production, visual effects, original music score, and editing.

“How Does Your Water Shed?” workshop series launched in May: Water Rocks! launched a new workshop series for adults/community members to help them learn about watersheds and better understand water issues affecting all of us. The workshops included a combination of discussion and interactive activities to generate dialogue and increase awareness of water issues. Three “How Does Your Water Shed?” programs were offered this quarter, in partnership with Story Co. Master Gardeners/Story Co. Extension, Marion Public Library, and Grimes Public Library. Presenters Helmers, Comito, and Staudt noted that while attendance was moderate, engagement was high. We are discussing how to increase attendance in the future, perhaps offering winter workshops instead.

A Record Year for Outreach!: Between our full-time staff and student interns, the Water Rocks!/Iowa Learning Farms team has had an amazing year of outreach, completing a record **204** total events and reaching **22,501** people at events across the state of Iowa. These events include school visits, youth outdoor classrooms, farmer field days/workshops, farmers markets, county fairs, and community festivals.

We are pursuing a new avenue for youth outreach in the year ahead: school assemblies! Our current youth outreach efforts allow us to reach one classroom at a time, in a very hands-on, interactive manner. We will continue to offer these classroom visits free of charge as one of the key tenets of our program, but we’re working to develop the assembly program as an alternative presentation option. The assemblies will use music and lots of audience participation to engage students with watersheds and water quality concepts – a great option for large schools when we do not have sufficient staffing to reach every student in a day.

New “What’s In Your (Storm)Water?” Launched: In February, the Water Rocks! team launched a new classroom module targeted to students in Grades 4-8, and includes content on such topics as watersheds, stormwater (and where it goes), runoff, infiltration, water quality challenges, and urban action items. The module is designed as a game show, where students compete for money (“Duck Bucks”) by working together as a team and answering questions correctly. Debuted at Walcott Middle School, the 7th graders had a blast with the “Duck, Duck, Pollute” game and a chance to wear the Stormwater Sombrero. There is a lot of demand for stormwater-related educational materials, so we need to figure out how to include this module (or pieces of this module) in the kits for future Water Rocks! Summits.

Video Updates: Videos/DVDs Released in 2015

- 11 music videos
- “Treasures of Iowa” video series – 2 final episodes
- Episodes 20-24 of the “Adventures of the Conservation Pack” video series (as well as a 60-page companion activity book)
- “The Environmentally Conscious Robot” public service announcement video
- “Make It Rain! ISU Rainfall Simulator in Action” educational video. This video was created for Dr. Cinzia Cervato and Iowa State University’s Department of Geological & Atmospheric Sciences, for use in their introductory geology course. The video includes open-ended questions for students to answer as part of their geology lab course; it was used with 127 students during the fall semester.
- Two Water Rocks! videos, “Troubled Waters” and “Incredible Wetlands,” are currently featured in the Culture Unplugged Film Festival, an online showcase of documentary and short films focusing on issues of human rights, social awareness, the environment and spirituality. The videos have received 109 and 130 views, respectively, on the [Culture Unplugged](#) website. “Incredible Wetlands” was partially funded by USDA-National Institute of Food and Agriculture Project number 20114113031123, Leopold Center for Sustainable Agriculture, and Iowa Learning Farms.

Rock Your Watershed! Game

The Rock Your Watershed! game has reached a landmark! This year the game has crossed 10,000 total plays since it was first launched in 2012. We’ve seen multiple situations where the game has been used in classroom settings across the state (concentrated game plays from a single community/school district in the leaderboard) – a definite positive! Multiple schools have used the game in conjunction with our classroom visits, either before or after our trip there.

Thanks to players entering their information in the leaderboard, we’ve also seen evidence of game use well outside of Iowa, with game plays across the US including California, Florida, Kentucky, Michigan, Minnesota, Missouri, Montana, Nebraska, New York, North Carolina, Texas, and Virginia.

We are working with Entrepreneurial Technologies (ET) to revise and upgrade the Rock Your Watershed! game, with the revised version launching later this school year. The revised game includes an improved user interface with more land management choices (adding in urban development and pasture options), an added biodiversity metric as part of the overall score, as well as the option to see your overall score under different rainfall scenarios. The results page will also feature a much more visual depiction of how the user’s choices impact the overall stream health. We completed the scoring metric spreadsheets for each of the different rainfall scenarios, and those are now in ET’s hands. We have also written text descriptions for the new land management choice options as well as for the thirteen featured creatures that appear on the new results screen. We hope to tweak the game’s scoring metrics and presentation over the next few weeks to begin beta-testing with select schools this winter.

WR! E-News: Communicating + connecting with teachers and water quality stakeholders

WR! E-News is now sent biweekly. In order to increase our visibility and presence with teachers and water quality stakeholders across the state, the Water Rocks! E-Newsletter has transitioned from being a monthly publication to now being sent out twice per month. Each month, one issue will be topic-/theme-based, offering videos, activities, and other resources related to one select environmental or conservation topic (e.g. December's theme was soils in celebration of World Soil Day). The second issue will include a variety of stories – promotion of WR! Summit, promotion of classroom visits, WR! program news, news from teachers, etc. Circulation of the WR! E-Newsletter has increased to **9,065** this year.

Geocaching Hits a Milestone

Water Rocks! Geocaching has also reached a landmark this year! The program reached its 1,000th logged visit, representing only those who chose to sign the digital logbook. This also only represents one individual per find. We've found that most visits are by two or more people, making the number of participants much higher.

New Faces with Water Rocks!

Water Rocks! welcomed a new Communications and Outreach Specialist, **Paola Sepulveda**, at the beginning of December. Sepulveda has degrees in landscape architecture and environmental studies. She also offers outstanding graphic design skills and past experience working with extension programs. **Julie Whitson** will start working with the Water Rocks! program in January as an Extension Program Specialist. Whitson's background is in sustainable agriculture, regional planning, and non-profit program development.